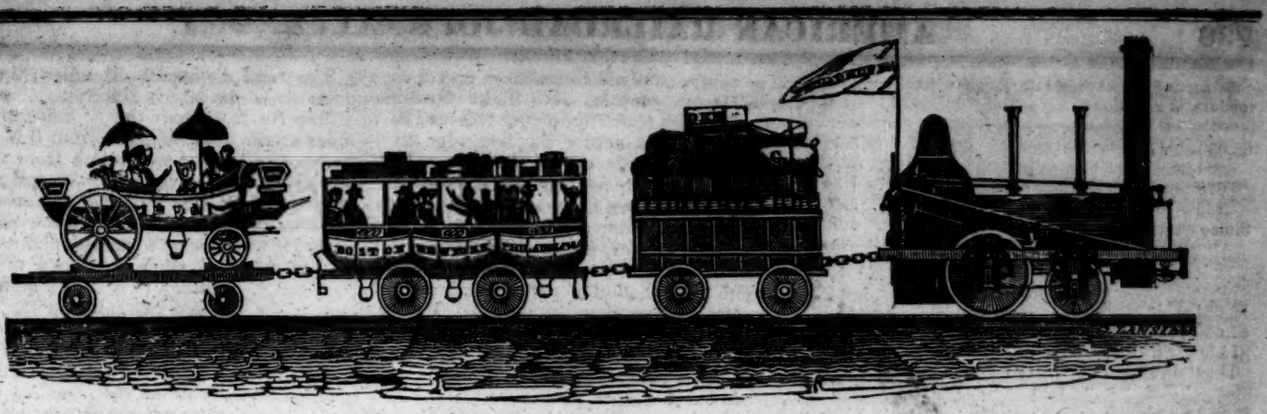

AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, NOVEMBER 29, 1834.

We alluded some days ago to the project referred to in the anexed extract which supplies some additional particulars.

Junction of the Mediteranian and Red Seas.—*Egypt, Sept.* 10 1834.—All the generations which have succeeded each other in Egypt have imagined that immense advantages would result from the junction between the Mediterranean and the Red Seas; and long ago commercial Europe has been aware of the immense profits that might be derived from such an opening. This great work, to the execution of which the European powers ought to have jointly contributed many years ago, is at length about to be effected. It is already commenced, thanks to Mehamit Ali. There is not however, to be a canal.—The isthmus has again been explored by scientific men, and they are apprehensive of its inundation; therefore, a railroad is to be made, which is to take its rise at Choubrah, pass 20 min. distance of Cairo, and running along the flanks of Motakam, will finish at Suez. The merchant vessels will be unladen at Alexandria, and the goods will be conveyed by steam boats by the canal of Mack-Modie, as far as Alfe, thence to Choubrah upon the Nile. There they will be placed in waggons, and forwarded to Suez, for embarkation, upon steam vessels, which are already employed in conveying goods from that place to Bombay, Mr. T. Galloway, the engineer, embarked yesterday for Malta, in the Phenix brig of war, which his Highness has placed at his disposal. He will proceed from Malta to England without delay. The principal object of his mission is relative to a treaty with the East India Company on the subject of the transit duties to be levied on merchandise. This distinguished officer, who is son to one of the first engineers in England, will, we hope, be back again in less than a year. He will bring with him men and materials to complete this great work.—The house of Galloway, Thibuldi, and Co., of Alexandria, has received a commission from the Viceroy for this great undertaking, which will require a capital of 15 millions. France is too much interested, on account of her growing commerce with Inda, and her direct commercial intercourse with Egypt, in the success of this grand universal work, not to hasten to do all in her power to aid it with her credit.—[Courier de Lyon.]

The Village Record states that the citizens of that neighborhood are making great exertions with reference to a Railroad from Port Deposite to Philadelphia, by extending the West Chester Railroad to the former place.—[Pennsylvania Inquirer.]

NEW-YORK AND ERIE RAIL ROAD.

The friends of this truly splendid work will soon be gratified with the report of Judge Wright, which will, probably, be presented to the Legislature at an early period of its session. The report will, as we understand, show the route altogether more feasible than was anticipated. It is, therefore, now only necessary for the Legislature to act promptly and liberally towards the Southern section, as it has long since done to the Northern, to ensure a speedy completion of the work; and that they will pursue such a course, we can hardly for a moment doubt. They must, at all events, feel the necessity of action—prompt and decided action— when they see and realize the untiring perseverance of our natural rival, Pennsylvania, to divert from us, and secure for herself, the rich and increasing trade of the Great West.

The following extracts, from a Report to the President and Directors of the Sandy and Beaver Canal Company, will give some idea of their determination to be *successful* rivals.

[From the Commercial Philadelphia Herald, of Nov. 12.]

This work, designed as the connecting link between our State improvements and the Ohio Canal, thereby securing to us the vast trade of Ohio, Indiana, Kentucky, &c. commences near the town of Bolivar, on the Ohio canal, and debouches into the Ohio River, about 30 miles below Pittsburgh. It is in extent about 76 miles, and is estimated to cost about $1,250,000.

In the year 1828 the route was surveyed under the direction of Major Douglass, and a favorable report obtained; since then, sectional and conflicting interests have created doubts as to the adequacy of the supply of water, and the scheme so fraught with interest to our State improvements, and so closely allied to the growth and prosperity of our city, has been suffered to lie dormant. In order, however, to set all doubts at rest on the subject, the Directors of the Company have thought proper to have a re-survey made. For this purpose the services of two engineers from this State (E. H. Gill and H. Hage) were obtained during the past summer, who give it as their opinion that the supply of water is fully ample for all the wants of an extensive trade. I am informed the line is to be placed under contract immediately, so that the period is not now far distant when the immense products of the far West shall find our market.

The charter of the company holds out the strongest inducements to capitalists; from it we extract the following section—

"That when the Canal shall have been completed 20 miles from the Ohio Canal, said company shall be entitled to collect and receive the tolls accruing on the Ohio Canal, on all freight and passengers that may be transported thereon, and which have been transported not less than twenty miles upon said Sandy and Beaver Canal, to the Ohio Canal, and to receive the toll on all freight and passengers that may be transported thereon, and discharged and landed in said Sandy and Beaver Canal, at any point not less than 20 miles from the Ohio Canal, for the term of seven years from and after the completion of the twenty miles of Canal as aforesaid."

REPORT.

The summit of the Canal drains eighty square miles of country, and is fourteen miles in extent, ten miles of which are located over ground exceedingly favorable for the retension of water—being a tough clay, mixed with a small portion of gravel. The top water line of the Canal is depressed to a plane, lower than the surface of the adjoining country, and as the cutting is deep, and the ground gradually rises as it recedes from the line, no allowance can be requisite for losses by leakage. This portion of the route is frequently intercepted by small, but durable streams, and the soil being extremely springy, there is every reason to believe that it will afford an ample supply for all losses that can possibly be sustained by evaporation. The remaining four miles of this, and three on the adjoining levels, dependent on the summit for their supply, are of a character somewhat different, and will require some allowance for leakage and evaporation. * * *

After enumerating the different streams from which water is to be drawn, it says—

This amount being inadequate to accommodate the trade that may be anticipated, it becomes necessary to resort to reservoirs, which, during the dry season, will supply the deficiency. Numerous and eligible sites, for this purpose, present themselves; the most favorable of which are on the West Fork of Little Beaver Creek, and Cold Run. The first of these will flood 300 acres, and contain 105,937,920 cubic feet of water, having an average depth of 8.10 feet above the highest plane of the summit level. The other is intended as an auxiliary, to connect with the former, by means of a short feeder; will inundate about 96 acres, and contain 33,711,680 cubic feet of water—having an available average depth of 806 cubic feet, amounting in all to 139,649,600 cubic feet. If from this amount we deduct twelve inches in depth for evaporation, &c., we shall have left for navigation 134,943,744 cubic feet; being sufficient to pass 102,83 boats per day—this, added to the 1.745 boats per day, in the foregoing statement, gives a supply sufficient to accommodate over 120 boats per day, during the dry season. The estimated cost of

constructing these reservoirs, and the Mahoning feeders, is as follows:

WEST-FORK RESERVOIR.

68,000 cubic yards embankment, at 30 cents,		$13,600
500 linear feet of pipe at 5,40		2,700
672 perches wall " 2,00		1,344
200 " " " 3,00		600
Sluice gates, &c. &c.		1,000
		$10,244

COLD RUN RESERVOIR.

12,684 cubic yards feeder excavation, at 8 cts.	1,014 72
47,000 cubic yards embankment, at 16	7,520
214 linear feet pipe at 5,40	1,155 60
400 perches wall, at 2,00	800
200 " " " 3,00	600
Sluice gates, &c.	500
Waste weir in feeder	150
	$11,740 32

MAHONING FEEDER TO WEST FORK.

24,700 cubic yards excavation, at 12 cents	2,964
9,000 cubic yards embankment, 15	1,350
Waste weir	200
	$4,514

MAHONING FEEDER TO DAVIS' BRANCH.

85,700 cubic yards excavation, at 12 cents	10,284
27,000 cubic yards embankment, 15	4,050
Bridge at deep cut	150
	$14,484
	49,982 32
Add 10 per cent. for contingencies	4,998 23
Total estimated cost	$54,980 55

THE EASTERN DIVISION

of the canal descends rapidly from the summit level, for about one mile and a half, whence it enters the valley of the Middle Fork of Little Beaver Creek. This stream affords, at all seasons, an ample supply of water to meet the demands of leakage, evaporation, and lockage, and as it approaches the Ohio River the flow is greatly augmented. The valley of the stream offers eligible sites for the construction of dams, and, from its general formation, is well adapted to the purpose of slack-water navigation. Should the canal be extended up the Ohio River, it will be fully equal to its wants.

ON THE WESTERN DIVISION

of the line, a portion of the levels near the summit, or Middle Division, will require to be fed from the upper level. Loss by leakage and evaporation on this portion has been accounted for in our foregoing calculations.

The valley of Sandy Creek, through which this division is located, is peculiarly favorable for the construction of a canal. From the numerous streams that intersect the creek, in its meanderings, there can be no doubt as to the abundance of the supply of water for this division.

The country through which the whole line passes, offers, in general, facilities for the construction of the work in question, that are not usually met with. Timber and stone, of a superior quality, are found in abundance. Hydraulic lime is frequently met with; and we have no hesitation in saying, that the improvement can be constructed at a moderate cost, compared with works of a similar extent.

All which is respectfully submitted.

E. H. Gill,
Hother Hage. } Engineers.

New Lisbon, O., Oct. 13, 1834.

Report on the Survey of a Canal Route to connect the Waters of Lake Michigan and the Illinois River, 1831.

Washington, May 20, 1832.

Sir,—In obedience to the orders of the Chief Engineer, dated the 27th of April, 1831, I proceeded to Cook county, State of Illinois, to complete a survey, (commenced by Messrs. F. Harrison and W. B. Guyon, assistant civil engineers in the service of the United States, in the summer of 1830,) the object of which was the selection of a route for a canal to unite Lake Michigan with the Illinois river. The results of the survey, exhibited in nine sheets of maps, and the same number of sheets of profiles, with a memoir explanatory of the same, I now have the honor to lay before you.

The route examined commences on Chicago creek, which empties into Lake Michigan about six miles above its mouth; thence in a westerly direction across the low ridge dividing the head waters of the above mentioned creek from Des Plaines river, till it strikes into the valley of the Des Plaines, near its junction with Mud Lake, down this valley on the left bank of the river for twenty-six miles, when it crosses to the right bank, along which it continues to the junction of the Kankakee river, the united streams from the Illinois. The valley of the Des Plaines is, on an average, about two miles wide, bounded by bluffs from 20 to 60 feet high; the soil is generally poor, the rock, (sandstone,) in a great portion being very near the surface, and in the remainder gravelly, with a thin covering of soil; timber is scarce, and of an inferior quality. The river is a succession of rapids from its head to the mouth of the De Page; then to the Kankakee, the current is very sluggish.

From the junction of the Des Plaines and Kankakee, the line runs on the right bank of the Illinois, generally in an open prairie, to the foot of the rapids, crossing no stream of any consequence except the Fox.

The valley varies in breadth from one to three miles; it is bounded by high and steep bluffs; the soil is generally of good quality, and timber is plenty, especially on the left bank. The rapids commence about 27 miles below the mouth of the Kankakee, and continue with little interruption for 15 miles. During high water, steamboats drawing not more than four feet can ascend to the mouth of the Fox, 8 miles above the foot of the rapids.

When the Indian trade was extensively carried on upon the Illinois and its tributaries, boats ascended the Illinois and Des Plaines to Mud Lake, and then dragged across to Chicago creek, and descended to Lake Michigan. In the spring, when the water was high, no portage was necessary, and boats carrying as much as six tons, passed from Mud Lake to the creek without difficulty.

Map No. 1 exhibits the survey of Chicago creek, together with eight miles of the canal route; the profile of the latter is on sheet No. 1.

The survey of the creek commences at its mouth, which is obstructed by a bar. At the time it was sounded, during the summer of 1831, there was two feet water, but it is constantly altering, and sometimes completely closed. From the bar, the water of the lake gradually deepens, and 445 yards from its mouth there is 18 feet water.

The creek, from its mouth to Fort Dearborn, a distance of 467 yards, runs parallel to the lake, (course nearly north,) from which it is separated by a narrow sand bank; its average width 100 yards; the depth varies from 6 to 15 feet. From the fort of the village of Chicago, the course is west, distance 1150 yards, average width 70 yards, and from 15 to 26 feet deep; at this point the stream forks. From the village the main branch has a course east of south for 3200 yards, average width 60 yards, depth 17 feet; thence to the point where the line of levels commence, the course is south of west, distance 5230 yards, average width 44 yards, depth varying from 26 to 10 feet. The creek bears about 2500 yards from the above mentioned point, in low wet ground, which extends in a westerly direction for about 4 miles to Mud Lake, which communicates with the river Des Plaines.

Mr. Guyon commenced his line of levels at Chicago creek, at the mouth of a broad slough, marked on the map stake, No. 1, 2·55 feet above the surface of the water in the creek, which is the same as the surface of the lake. The line runs from 5¾ miles over an open prairie, when it strikes upon the shore of Mud Lake, to which it is parallel for 2¾ miles, when it comes upon the left bank of the Des Plaines, along which it continues for ¾ of a mile; the ground to the south of the line, for the last two miles, is high and wooded.

The total distance is 8½ miles; the highest point above the lake is 100 feet.

Map No. 2.—From the 8½ miles to the 18½ miles of the main line, and from B M 3 to the termination of the feeder line from the Calamic river. The profile of the main line on sheets 1 and 2, that of feeder on sheet 3.

From the 8½ mile to the 135th picket, six miles, the line is on a prairie, and nearly parallel to the river, when it enters a thick wood, in which it continues to B M 6, a distance of 4 miles: for the last two miles at the foot of a high ridge, which commences opposite the 12th mile, it is indented with numerous ravines, and runs parallel to the river for 6 miles, when it turns abruptly to the east, forming the north bank of the Ausoganashkee swamp; from B M 6 an offset was made to B M 8 of feeder line: the level of 10 feet above the lake can be kept up.

Map No. 3.—From the Calamic river to B M 3; this, with the portion on map, No. 2, comprises the feeder line, distance 18½ miles: the profile is shown on sheet 3.

The feeder line commences at the junction of the Calamic river with Stony creek, marked on the map B M No. 1, running along the low grounds of Stony creek, Grassy lake, and the Ausoganashkee swamp: from picket 120 to 181, it was run on the slope of the bluff for convenience; a lower level can be had, as will be seen on reference to the offsets on profile 3.

From picket 20 an offset was run to a point on the Calamic, marked on the map A; its surface here is 0·69 feet higher than at B M 1, and 2·81 feet above Lake Michigan. At this point the river was gauged, and, according to Mr. Guyon's calculation, it discharges 286·95 cubic feet of water per second: from the 183d picket an offset was made to the Des Plaines river: its surface is 5·32 feet above the Calamic, and 7·20 feet above Lake Michigan.

On the 21st of October, 1829, Dr. Howard, United States civil engineer, gauged the Des Plaines at Lawton's trading house, and made the discharge 26·80 cubic feet per second. On the 8th of Aug. 1831, Messrs. Harrison and Guyon gauged it at the same place, and made the discharge 15·14 cubic feet per second. Mr. Lawton stated to them that he had seen the river lower.

Map No. 4.—From the 18½ mile to B M 10; the profile on sheet 2.

From picket 185 to B M 7, the line crosses the Ausoganashkee swamp, which is here 1443½ yards wide. The ground for the first 166 yards is dry and firm, as the swamp expands considerably at its mouth; by crossing further up, the distance across it might be greatly diminished. From B M 7 to stake 16, the line runs on a prairie, with the exception of the first quarter of a mile, which is on wet ground, covered with wood. Here the bluff forms the river bank, and the line is on the slope for seven eighths of a mile, when the bluff recedes from the river, and the line comes on a level open ground, which continues to the 27¼ mile, crossing two sloughs, through which the water flowing from the bluff is discharged into the river: from the 27¼ mile the line is on the slope of a mound for 770 yards; thence, on low marshy ground, to stake 30, crossing three streams with rocky bottoms. From stake 30 to 31 the ground is open and dry: the line might have been nearly straight from stake 24 to 30: from stake 31 to B M 10 the line is on a gentle slope; near the B M it crosses a ravine 35 feet wide and 5 feet deep. This is the termination of Mr. Guyon's survey, being 29 miles and 423¾ yards from the commencement at Chicago creek.

The balance of the route was surveyed and levelled by myself, assisted by Mr. Chauncey Barnard, jr.; the distances are computed from B M 10, map No. 4: from B M 10 to B M 23, 14½ miles. The first 12 miles of the profile on sheet 4, the balance on sheet 5.

From B M 10 to B M E the line runs on a descending plain, covered with short grass; the soil is generally wet, and rock is found

from 6 to 18 inches from the surface; the bluff gradually recedes from the river, leaving a wide bottom. It is rocky and thinly wooded. At B M E the line crosses the Des Plaines; the banks are rocky, and the streams divided in two channels by a rocky island; the first is 19¼ yards wide, and 1 foot 6 inches deep; the island 24¾ yards wide, its highest point 9 feet above the surface of the river; the second channel is 22¾ yards wide, and 2 feet deep; the bed of the river is rock, and the current rapid; the surface 63·05 feet below Lake Michigan. The bluff on the west side of the river forms the bank, and the line runs on the slope for 1¾ miles; it is rocky, with a thin covering of gravel; it then crosses a small stream, through which the water flowing from the upper prairie is discharged. From this point the bluff gradually recedes from the river, leaving a wide bottom, intersected by numerous low gravel ridges, upon which the line runs to the 8⅝ miles to the north of the line, and opposite to the 8th mile is an isolated hill 500 yards long and 40 feet high, called Mount Joliet: from the 8⅞ mile, the line runs on the slope of a gravel ridge for 660 yards, when it crosses low ground three-eighths of a mile wide, to the foot of a high ridge that extends to the river, and continues along its base to B M 17, on the north bank of the Joliet river, which is 25⅞ yards wide, and 1 foot 2 inches deep, with a gravelly bottom, and no perceptible current: the surface is 77.47 feet below Lake Michigan. From B M 18 (south bank of the Joliet) to the 11½ mile, the line is on a sloping ground, crossing a wide ravine, which is said to communicate with the river De Page; thence, to the 13⅝ mile on the slope of the river bank, a narrow wet bottom intervenes between the bank and the river: it then comes on a level open ground, which continues to B M 22, crossing two small streams.

Map No. 6.—From B M 22 to the 27½ mile, 13¾ miles, and feeder line, to the De Page, 1⅞ miles. The profile of the first 9⅞ miles on sheet 5, the balance on sheet 6; profiles of feeder line on sheet 9.

From B M 22, the line for 1 mile is on open, level ground; thence to B M 24, on the slope of the bluff, which is thinly wooded; thence to B M 25, on a gravelly ridge: at B M 24 the bluff turns to the north, leaving a wide bottom through which the river De Page runs. At the junction of this stream with the Des Plaines, there is an Indian village.

From B M 25 a line was run to ascertain if the De Page could be used as a feeder. The rise in the 1⅞ miles is 11.3 feet; (at B M A,) the stream was gauged on the 12th July, 1831; its discharge was 62.24 cubic feet per second; it must be remarked that the summer of 1831 was unusually wet. On the 23d July, 1830, it was gauged at Walkin's, 3 miles above B M A, by Messrs. Harrison and Guyon; the result was 27.75 cubic feet per second. The season, however, was uncommonly dry.

At B M 25, the main line crosses the De Page: it is 35½ yards wide, and 1.1 foot deep, with a rocky bottom and a gentle current; its surface 79.32 feet below Lake Michigan. It then crosses a bottom 183 yards wide, that is inundated during high water, then, to the 18th mile, on dry, level, wooded ground, along the foot of the bluff, which here forms the river bank; thence to the 19th mile, on the slope of the bluff, which is broken, and covered with heavy timber, principally oak, ash, and walnut. Here the river turns nearly at a right angle, the bluff keeping parallel to it; the line continues on the slope of the bluff to B M 31, where the timber ends. Opposite this the Des Plaines unites with the Kankakee, and the Illinois is formed. From B M 31 to 200 yards below B M 32, the line runs on a steep, broken clay bank, the river running at the foot of it; then for half a mile on the slope of a gravel ridge, when it descends, crossing a small gully into a prairie, on which it continues to B M 33. From B M 32 the bluff recedes from the river, and gradually descends to the general level of the country, as it approaches the Au Sable river.

From B M 33 to the Au Sable, the line is on an undulating prairie; it then crosses the river, (the Au Sable,) to B M 34. The stream is 19⅝ yards wide, 2.10 feet deep, rocky bottom, and very little current; the surface is 83.46 feet below Lake Michigan. Its banks, below this point, are thickly wooded. From B M 34 to the 27⅞ mile, the line passed over a prairie, the surface very irregular, caused by numerous gravel ridges.

Map No. 7.—From the 27⅞ mile to the 41¼ mile: 13⅜ miles profile of the first 8½ mile on sheet 6, the balance on sheet 7.

From the 27⅜ mile to B M 35, the line runs at the foot of a ridge, the ground gradually descending to the river; thence to B M 36, on the slope of the same ridge, when it turns to the north, in order to avoid a low bottom made by Nettle creek and Little Maison river, which unite about 100 yards below the bench mark. Between B M 36 and 38, both streams are crossed; the first is 13 feet wide and 1 foot deep, passing through a deep ravine 150 yards wide; the second is 23 feet wide, and 2½ feet deep; the ravine through which it runs is 245 yards wide. From B M 38 to 39 it runs on the slope of a gravel ridge, between which and the river a low bottom intervenes, which is overflowed during the spring freshets from B M 39 to the 33⅞ mile on the slope of the river bank; then to the 36th mile on a prairie intersected with gravel ridges. It then crosses a marsh three-quarters of a mile wide, to a dry gravel ridge, thinly wooded, on the slope which it continues to the 37⅝ mile; thence, on a wet bottom, to the 41¼ mile, crossing two streams; on the left of the line is a high bluff, broken by numerous wide and deep ravines. It is thinly wooded, and chiefly white oaks; the soil of the bottom is alluvial, and covered with very high rank grass.

Map No. 8.—From the 41¼ to the 52½ miles, 11¼ miles. The profile of the first 6¼ miles on sheet 7, the balance on sheet 8.

From the 41¼ mile to B M 44, the line continues on the bottom, (the surface irregular, caused by ridges putting out from the bluff, and extending to the river — between these ridges the ground is marshy,) crossing two streams, the first ten feet wide and 6 inches deep, the second 38 feet wide and 3 feet deep, running in a ravine 149½ yards wide: the surface of the water is 102.20 feet below Lake Michigan; this gives the surface of the Illinois, it being so high as to back up the water in the creek. Bituminous coal, of an excellent quality, is found in the banks of the stream. From B M 44 to 48 the line runs on open ground, crossing three small streams; thence to the 50th mile, on a gentle slope: B M 48 is on the bank of a brook 20 feet wide; thence, on a flat prairie, to the 52½ mile, crossing two branches of the Chicago road, the first leading to a ford, and the second to the ferry of the Illinois.

Opposite the 49th mile, the bluff begins to recede from the river in a northwest direction. The grand rapids of the Illinois commence opposite the 46½ mile; and from this point to the foot of the rapids, a distance of about 16 miles, during the low stages of water, the river is only navigable for small boats.

Map No. 9.—From the 52½ mile to the termination of the survey, 10 miles and 579⅓ yards; feeder line up the Fox river, from the point marked A on the map, to the head of the principal rapid, 4 miles and 649 yards. Profile of main line on sheet 8, profile of feeder on sheet 9.

From the 52½ to the 53⅛ mile, the line runs on a dry level prairie, when it commences to descend to the Fox river, the east bank of which is a gradual slope, the west rocky and nearly perpendicular. Where the line crosses the river, it is 125½ yards wide, its surface 127.11 feet below Lake Michigan; in ordinary stages of the water it is fordable, but, owing to heavy rains, it was, at this time, 6 or 8 feet above low water mark.

A line was run on the west bank of the Fox to the head of the principal rapid, a distance of 4 miles 649 yards; its surface at that point was 96.52 feet below the lake, making a rise of 30.59 feet. The stream was so much flushed that it was useless to gauge it, but I was informed it discharged a large quantity of water at all seasons.

From the 53⅜ mile to the 54⅞ mile, the line is on a dry prairie, crossing a ravine 33⅓ yards wide; its banks are rocky; a great deal of water passes through it, being the drain of a large prairie; from the 54⅞ to the 55th mile, the rock (soft sandstone) is very near the surface, and, in some places, is visible. Thence, over a sandy ridge, through a gap of a rocky ridge, to the 57th mile; then to B M 51. on open, level ground, crossing a stream, which is the outlet of a large swamp, at the foot of the bluff. From B M 51 to the 58¾ mile, the line is on marshy ground; and midway between the bluff and Buffalo rock, an isolated rocky hill abont one mile long, and a quarter of a mile wide in its broadest part; its south side forms the bank of the Illinois; thence, on a dry gravel ridge, to the 60⅛ mile, when it crosses a slough 266⅔ yards wide, through which, during the spring freshets, the water from the river passes into the marsh at the foot of the bluff. From this point to the 62d mile, the line runs on a dry gravelly ridge, when it descends on a botton, which is overflowed during extraordinary freshets, and continues on it for three-quarters of a mile, when it strikes upon the Illinois river.

This point is at the foot of all the rapids, and boats that can pass over the bars at Beard's ferry, Fort Clark, and the Little Vermillion river, can ascend to this point. The surface of the water is 139.64 feet below Lake Michigan; but from what I learned from persons living in the neighborhood, the river was from 12 to 15 feet above low water wark. The total length of the line, from its commencement on Chicago creek to this point, is 92 miles and 123⅓ yards.

I was desirous of running a line from the 60⅛ mile to the mouth of the Little Vermillion river, three miles below the termination of my line, along the foot of the bluff, but owing to the heavy rains, it was impracticable to effect it, the marshes along the bluff being impassable without swimming. The canal commissioners of the State of Illinois designated the mouth of the Little Vermillion as the termination of the canal. I have the honor to be, very respectfully, your obedient servant,

H. Belin, Assi't Civil Engineer.

To Lieut. Col. J. J. Abert,
Topographical Bureau, Washington, D. C.

Fifth Annual Report of the Chief Engineer of the Baltimore and Ohio Railroad.

Engineers' Office, Baltimore and Ohio Railroad,
Baltimore, Oct. 1, 1834.

To Philip E. Thomas, President &c.

Pursuant to the regulations prescribed, I have now the honor to present the Fifth Annual Report of this department.

When the last annual report was made, the Surveying party were engaged in the definitive location and staking out for contract of the second and third divisions of the adopted route of the lateral railroad to the City of Washington; the surveying of the first and fourth divisions having been previously completed. This service was effected in October last, so that at the close of that month the entire line, from its intersection with the Baltimore and Ohio Railroad, to the northeastern boundary line of the City of Washington, being about 29 miles, was prepared for contract. During the succeeding month the surveying party completed the staking out of the lateral boundaries of cut and fill, as well as of those of the lands requisite for the roadway. That part of the line of this road situated within the limits of the City of Washington, and called the fifth, or city, division, has not yet been definitively located; the route has, however, been traced

and estimated as far as New-Jersey Avenue, at the intersection of H street, distant from the aforesaid limits a fraction more than one mile. The position of the line within the territorial bounds of Washington, so as best to promote the accommodation of the public, will soon claim attention—to effect this object the concurrence of the municipal authorities of that city will be requisite.

In the month of December last a survey was directed by the board, and executed by this department, in order to ascertain if several miles of the line in the vicinity of Bladensburgh could be changed and laid upon other ground without material injury to the road, so as to meet the views contained in a petition preferred upon the subject by an extensive proprietor, through whose lands the route had been laid and staked out for contract. Upon this survey, my report, with the relative calculations and drawings, was made on the 28th of that month, and the board made no change in the line as it had previously been run.

In the inclement weather of January, the route of the Baltimore and Ohio Railroad between the upper Point of Rocks and Miller's Narrows, that is, 8¼ continuous miles of the distance between the Point of Rocks and Harper's Ferry, was, under instructions received from thee, surveyed by this department, for the purpose of ascertaining the relative merits of a line proposed by the Chesapeake and Ohio Canal Company, as a substitute for the line run by Caspar W. Wever and approved by me, as stated in my last annual report. A report, with the requisite calculations and drawings, being made, the line, as proposed by the Canal Company, was, with certain modifications suggested on the part of the Baltimore and Ohio Railroad Company, finally assented to and adopted by both companies as the route upon which the railroad should be constructed. It was accordingly staked out for contract, in the month of April, and the boundary stakes of cut and fill, as well as those of the lands for condemnation and occupancy by the road, were planted.

During the month of August last, a survey and report was made of the graded surface of 4 1/10 miles of the Baltimore and Ohio Railroad, including the narrow passes along the Potomac between the Point of Rocks and Harper's Ferry, which had been undertaken by the Chesapeake and Ohio Canal Company, and the work was found to be then very nearly completed.

In addition to the rough drafts executed during the progress of the surveys, the following described maps and profiles have been made during the year, and, as marked, remain on file in this office, viz.:

Five maps and profiles, together representing the line of location of the lateral railroad to Washington, as staked out for contract: these maps are designated by the initial letters, Lat. R. Rd. to Wn. and are numbered from 1 to 5 inclusive. Their horizontal scale is 13.2 inches to the mile, and the vertical scale of the profiles an inch to 50 feet.

The maps comprising the location of the 6th division of the Baltimore and Ohio Railroad, from the Point of Rocks to Harper's Ferry, on a scale of 26.4 inches to the mile horizontal, and one inch to 40 feet vertical. These maps exhibit the relative positions of the railroad and canal, and are each marked with the letters and words, B. & O. R. Rd. on Potomac, and numbered from 2 to 10 inclusive. In addition to the lettering and numbering, there is also a title placed upon the first map of each set.

A map and profile of the sixth division of the Baltimore and Ohio Railroad, extending from the Point of Rocks to Harper's Ferry bridge, has been engraved on a scale of 2 inches to the mile horizontal, and 1 inch to 100 feet vertical, and accompanies this report.

A sheet of drawings descriptive of the Rolled Malleable Iron Rail of 40 lbs. per yard, adopted for the Washington Railway, is likewise annexed to this report.

The field and office operations within the year having been adverted to, it may be added, that in their performance, generally, I have been essentially and efficiently aided by Benjamin H. Latrobe, Principal Assistant Engineer, who was charged with the immediate command of the parties on duty, and by William P. Swann, Henry R. Hazlehurst, and James Murry, Assistant Engineers of much merit.

The process of construction as regards the graduation and masonry was commenced upon the 1st division of the Washington Railroad about the time of submitting the last annual report, as will be seen on a reference to it; and soon afterwards, the lettings for these operations were extended as far as to the line of the District of Columbia, comprising, inclusive of three principal cuts, the conducting of which is under the superintendency of agents approved by the board, a length of line equal to about 26 miles. Upon these 26 miles all the masonry, excepting "the Thomas Viaduct" at the Patapsco, has been completed. The graduation upon the same has likewise been finished, except only at the three cuts alluded to, viz.: at Merrill's ridge, Patuxent ridge, and Snowden's ridge. It is confidently expected that the graduation at these ridges will be completed by the first of December next, and that the arches of the viaduct over the Patapsco will be closed about the same time. It is believed that seldom or never has so great a quantity of work been performed in so short a time, upon any line of internal improvement.

Very soon after, the 8¼ miles of the Baltimore and Ohio Railroad, between the upper Point of Rocks and Miller's Narrows, were prepared for contract, the graduation and masonry were commenced, and the work has progressed so rapidly that it is already completed.

Materials have likewise been procured, and are in the course of delivery, for laying down the first track of railway upon the Washington Railroad, and the first track upon the sixth division of the Baltimore and Ohio Railroad, and contracts have been made for the construction of these respective tracks upon the plans matured by this department; and it may be here stated that the breadth of track between the iron rails of the Washington road is 4 feet 8½ inches, (allowing a flange play of one inch,) and that the distance of the two tracks apart is to be six feet, measured from centre to centre of the rails. It is believed that a single track will be finished to Harper's Ferry Bridge during the present season; and that such progress in the same time will be made in the construction of the railway upon the Washington lateral road, that a track will be opened and travelled from Baltimore to the line of the District of Columbia by the first of July next.

For a detailed statement of the operations connected with the construction of the graduation, masonry, and railway of both roads, I refer to the report of Caspar W. Wever, superintendent of construction, which will contain all the information under this head that could be desired.

Before dismissing the subject of construction, I would, however, respectfully suggest that unless the 3 miles of the line in the District of Columbia, and the additional part within the territorial limits of Washington of one mile or more, shall be soon entered upon with a view to the extension of the road to, and into, the city, much disadvantage to the public will be experienced, whilst the revenue of the 26 miles constructed to the District line must be rendered less productive.

The construction and improvement of railway machinery, both as regards cars and locomotive engines, have steadily and successfully advanced, under the particular direction of George Gillingham, superintendent of machinery, and of the general superintendency of this department, aided by Ross Winans, assistant engineer of machinery, who possesses mechanical genius of a high order, as also does the contractor and manager in the company's machine shop, Phineas Davis. The annual report of the superintendent of machinery will detail the operations of his department with minuteness, for which reason, my observations touching this branch of the service may be the more general, and will mostly relate to the advances in improvement.

It was stated in my last annual report, that a second locomotive engine had, in the year preceding, been built by Phineas Davis, and placed upon the road; the "Atlantic" engine, which had previously been put upon the road, having been the first one of any efficiency, produced by the call of the board, for locomotive steam engines of American manufacture, to burn Anthracite coal. This second engine was described in that report, so far as to indicate the points of difference in construction between it and the "Atlantic" engine, previously built. It was stated that the new engine had cranks upon the axles of the road wheels instead of a spur and pinion, as in the "Atlantic," and that upon the failing of the crank axle it was resolved to gear with the spur and pinion, placing the pinion upon a shaft distinct from the axle of the road wheels. It was likewise mentioned that the separate shaft for the pinion was adopted to obviate the strains upon the gear observed to take place in the Atlantic engine, from the unavoidable jolts of the road wheels upon the axle of which the pinion was placed. This action had been such as to break the cogs of the spur and pinion wheels. The separate shafts being geared to the axle of the road wheels by a connecting rod, would not be subject to the jolting action, but would revolve smoothly upon its bearings in the side frame, resting upon the springs. On repairing this engine, (which had been called the Indian Chief,) it was accordingly so modified, and again put in motion, with its appellation changed to that of "the Traveller." The Traveller came into action immediately after the compilation of my last annual report. Its movements were important, as testing the virtue of the modified gearing, and indicating the form of construction to be given to the new engines. Upon sufficient trial, it was satisfactorily shown that the theory of a separate shaft was fully sustained in practice, and therefore this arrangement obtains in all the engines subsequently built, two of which, the "Arabian" and the "Mercury," by Davis & Gartner, have been put in motion recently. No fracture or failure in the spur or pinion has happened since the change to a separate shaft was made, and all the parts of this gearing work and wear smoothly, and apparently as advantageously as if in stationary engines.

Some other modifications have been introduced, such as in the dimensions of the boiler and cylinders, the form and number of tubes in the boiler, the proportion of connecting rods, and other appendages, the position of the springs, and the transmission of the waste steam from the cylinders to the fan, or blowing apparatus, and of the water to the boiler; all of which aimed at an increase of durability and power without increasing the weight of the whole machine beyond that of the "Traveller," or of causing more than two tons weight to bear upon the railway at any one wheel, a limit not observed in the present arrangement of that engine.

A brief description of the three successively built engines, the Atlantic, the Traveller, and the Arabian, will now be given, in order that their distinctive differences may be more apparent.

The Atlantic has an upright tubular boiler, 51 inches in diameter, and 69 inches in height

above the grate: the diameter of the fire place is 46½ inches, and its height 22 inches: the height or length of the tube is 16 inches, having each a diameter at the lower end of 1½ inches; and at the upper end of 1¼ inches; the tubes are of hammered iron, and 282 in number; they terminate at top in a hot air chamber, the upper plane of which is about 3 inches below the level of the surface of the water in the boiler. The diameter of this chamber is 46½ inches, and its height 6 inches. The hot air passes thence upwards to the top of the boiler, through the steam chamber, having a diameter equal to that of the boiler, and a height of 22 inches, by means of a cylindrical passage 13 inches in diameter, communicating directly with the smoke stack or chimney, of equal diameter. The top of the chimney is about 14½ feet above the level of the railway. The two steam cylinders stand upright, close to the boiler, are each 10 inches in diameter, and have a 20 inch stroke of piston. The power is communicated by means of connecting rods and two cranks to a shaft that carries a spur wheel 28 inches in diameter, which wheel drives a pinion 14 inches in diameter, on the axle of the forward road wheels of the engine, and causes these road wheels to advance upon the railway two revolutions for each double stroke (i. e. once up and once down) of the pistons. The diameter of all the road wheels is 35 inches, and the power is geared to one pair only. A fan wheel, propelled by the waste steam from the cylinders, is employed to create a blast to urge the fire and effect a combustion of the Anthracite coal, that being the fuel used.

The *Traveller* engine varies in point of construction from the Atlantic, having the pinion removed from the axle of the road wheels, and placed upon a separate axle or shaft posited about three feet forward from, parallel to, and in the same horizontal plane with, the front axle of the road wheels. The length of this shaft is the same with that of each of the two axles of the four road wheels, and it is furnished with a crank at each extremity, outside of the frame of the engine, as is likewise the two axles of the road wheels, so that by means of horizontal connecting rods, the shaft and the two axles revolve in unison, and thus the adhesion unon the railway of all the four road wheels of the engine will be employed, when required. In case the load is such that the adhesion of one pair of wheels only is sufficient, one of the connections may be dispensed with, and the shaft will then be connected only with the axle of the forward pair of wheels. The power is communicated to the pinion on the shaft in the same manner as in the Atlantic, and as in that engine, each double stroke of the pistons effects two revolutions of the road wheels. The side pieces of the frame of the Traveller are plated with rolled iron; the bearing boxes work in slides; and the springs are placed above the boxes and underneath the side pieces: arrangements that are superior to those of similar parts in the Atlantic engine.

The *Arabian* has a boiler similar to that of the Atlantic or the Traveller, already described, except in the number and dimension of the tubes, their arrangement with that of the upper part of the boiler, and a slight change in the dimensions of the latter. The diameter of the boiler is 52 inches, and the height 64 inches diameter of fire place; 48 inches, and height 22 inches. The number of tubes is 400, with a diameter at the lower end of 1½ inches, and at the upper end of 1 inch; length of tubes 31 inches, six or seven inches of which extend above the level of the water surface in the boiler. A part of the upper head of the boiler, 4 feet in diameter, is depressed 11 inches, at which level it receives the upper ends of the tubes, thus forming, as it were, within the steam chamber, a cylindrical hot air chamber, extending from the tubes to the top of the boiler, of the dimensions just indicated, and communicating directly with the smoke stack, which latter is enlarged near its base, and appropriately attached to the cylindrical sides of the hot air chamber. This attachment is such that the smoke stack can be removed at pleasure, upon which the upper ends of the tubes will be exposed to view, and being thus easily accessible, they can be taken out and replaced with new tubes with the utmost facility, when repairs are required. An important improvement in the boiler, it is believed, has thus been effected in the Arabian engine. The diameter of the steam cylinders is 12 inches, and their depth, or length of stroke, is 22 inches. The power is transmitted through similar gear to a separate shaft, and thence to all the road wheels of the engine, as in the Traveller. In the Traveller, the springs are underneath the side pieces of the frame, but in the Arabian, this fixture is improved, the springs being now placed above the frame, as in the English plan. The valve gear for reversing motion has likewise been advantageously modified in the Arabian, being now such that the effort applied to shift the cam frames from one cam to the other, operates simultaneously and alike upon both ends of the frame, effecting the object with more certainty and despatch. Improvements have, moreover, been made in the fastenings, connections, and rubbing parts of these machines, at once securing to the new engines superior stability and duration.

Improvements of some value have also been matured and adopted, having regard to the economy of steam. In the Arabian, the steam is conveyed to the working cylinders by passing it down inside the boiler, to the parts in contact with the cylinders, whence the steam is conveyed into the cylinders with the least loss from condensation. The waste steam, in its transmission from the cylinders to the fan-wheel, is made to pass in a hollow belt encircling the boiler, in which belt, the water pipes leading from the supply pumps are enclosed, and likewise make an entire circuit of the boiler, by which arrangement a portion of the heat of the waste steam is transferred to the water in the tubes, and with the water, is impelled into the boiler. The fan-wheel, upon the vanes of which the waste steam acts, is so contrived and fixed, that the whole or any part of such steam, at pleasure, can be made to propel the fan, thus enabling the attending engineer to control the blast, and by that means to regulate the heat of the fire, so as to generate the quantity of steam required by the emergency.

Hitherto, the successful combustion of Anthracite coal in locomotive engines has been attained only upon the Baltimore and Ohio Railroad, in Cooper's tubular boiler, assisted by an artificial blast; and such a blast is made with the utmost economy, by means of the fan-wheel driven by the directly applied power of the waste steam, or the steam after it has performed its office as a prime mover within the cylinders. This manner of creating the blast is an invention of Phineas Davis, to whom a patent has issued.

In relation to the adopted improvements in the boiler, it may be stated that the comparatively inaccessible position of the tubes in the Traveller engine would render their repair difficult, and as these repairs must become inevitable, a change in the tubular arrangement, giving more facility of approach, was desirable. The suggestion at first presented went to an elongation of the tubes to the upper head of the boiler: a bold, and perhaps hazardous step, since so considerable a portion of their length would be above the water, and be surrounded only by steam. To attain the object of accessibility, and yet avoid the risk alluded to, determined the depressed position of that portion of the head of the boiler in which the tubes are inserted, and being of less diameter than before, passing through 24 inches of water, having only about 7 inches of their length above the plane of the water, and that enveloped in steam, sudden injury from intense heat is not experienced: much of the heat is parted with below the steam chamber, and within it the ebullition of the water acts as a further protection to the tubes.

Whilst the size of the fireplace and the external dimensions in the boiler in the Arabian, differ immaterially from the corresponding parts of the Atlantic and Traveller engines, there has been a decided improvement in the external appearance generally of the new engines, every part being now more tastefully formed and arranged. For these useful, and at the same time pleasing, yet not costly, embellishments of the engines, as well as of the coaches, we are much indebted to the talents and refined taste of John H. B. Latrobe, Esq.

The quantity of fire surface, or area exposed to radiant heat, in the Arabian, is about 30½ square feet, and the area in the tubes in contact with the heated air that passes through them, is 304½ square feet, amounting, in all, to 335 square feet of fire surface. With a boiler and fireplace so arranged and furnished, the generation of steam is sufficiently rapid and voluminous to supply the cylinders, enlarged as they are, to 12 inches diameter, with a 22 inch stroke, at a pressure of 50 lbs. upon the circular inch, and for any velocity upon the road that will be convenient, as is evident from an experiment, in which this engine conveyed at the rate of 11 $\frac{79}{100}$ miles per hour, on a level part of the road, a train weighing, including cars, but excluding the weight of the engine and tender, 112 tons 18 cwt. 1 qr. the supply of steam being redundant, and pressure 50 lbs. to the circular inch. With this load, the engine advanced, but at a diminished speed, to the summit of 10 feet high in the deep cut, upon the railway, ascending at the rate of 17 feet per mile; and curved with a radius rather less than 1000 feet.

The entire weight of the Arabian, with its complement of fuel and water in the boiler, is 7½ tons; of which there rests upon the forward pair of wheels 3 tons 17 cwt., and upon the after pair 3 tons 13 cwt. The distribution of the weight is, therefore, judicious, and the engine will be less injurious to the railway than the Traveller, weighing 7 tons 11 cwt. 2 qrs., in which 4 tons 11 cwt. 3 qrs. are placed upon the forward wheels, and 2 tons 19 cwt. 3 qrs., upon the hinder wheels. It will be noticed, that whilst the Arabian is of less weight than the Traveller, by only 1 cwt. 2 qrs., yet no one wheel of the Arabian bears upon the railway with as much weight as a single wheel of the Traveller, by 7 cwt. 1 qr. 14 lbs. This equalization of weight upon all the wheels is a manifest improvement in the Arabian, where the adhesion of the weight of the whole engine can be employed in the traction: and it is believed that more than two tons weight should not be allowed to bear upon the rail through one wheel, however high may be the degree of perfection aimed at in the construction of the wheel or of the railway, whilst if either is less substantial, the weight should, if possible, be less than 2 tons, or not exceeding 1½ tons.

The Arabian is beautiful in appearance, and excellent in performance, having a power of steam and of traction, leaving nothing further on that score to desire. This engine was put upon the road, for the first time, about the 14th of July last, and very soon a crank gave way from a flaw, until then unperceived; on the defect being repaired, the engine was directed to the service of daily leading the Frederick train of passenger coaches between this City and the planes at Parr's Ridge, a distance of about 41 miles, going and returning daily, making about 82 miles per day. In this work the Arabian was still employed, when I had the honor to submit my special report upon this engine, dated the 1st of September of the present year, in which it was stated that the

engine had then performed upwards of 40 trips to and from plane No. 1, having run about 3500 miles with passenger trains without the loss of a trip, and without any repairs. In the same successful manner, were completed 51 trips, when in returning upon the 52d, and after running 4200 miles without any repair, the engine was thrown from the road upon the fracture of a flange caused by impingement against a stone. The Traveller engine was then placed in the line for a day or two, until the Mercury, an entirely new engine, was placed upon the road, when the latter superseded the former in this service. The Arabian was soon repaired and again placed upon the road.

From what has been related, it will appear that the Company had fully succeeded in procuring the construction, in this country, of locomotive steam engines fitted to use Anthracite coal as the fuel, and capable of plying successfully upon a railway having quickly turning curves, upon radii even so small as 400 feet; that these engines have all the power requisite upon railways, and that they appear to be substantial and durable. No further achievement in this branch might, therefore, seem practicable or even desirable. It is, however, believed, that a conclusion to this effect would be precipitate, if not erroneous. True, we can employ any of the usual kinds of fuel, wood, coal, coke, and do now use Anthracite alone; we generate a superabundance of steam; we have power in abundance, and have speed at command; the machinery is beautiful and works admirably; yet, have we not more steam, more power, a greater weight of engine, than is requisite for the conveyance of passengers? We have. The question, however, is, whether an engine of a weight no more than sufficient in point of *adhesion* for this purpose, and weihging only 6, or at the utmost 6½ tons, can be constructed, having at the same time, sufficient strength and durability of parts, and a capacity to furnish steam enough to maintain a proper rate of speed. To ascertain this point, it is in contemplation to plan an engine, geared as the Arabian is, but with parts diminished in size to the greatest extent consistent with the proper degrees of power. When this plan shall be perfected, with every reasonable prospect of success in the valuable qualities aimed at, a practical trial of it in the construction and use of an engine will be recommended. Meanwhile, as engines of the description recently made, and in progress of construction, appear to be of excellent quality, and, in the transit of commodities, will, from their great power of steam and adhesion, be most economical, no intention is entertained of recommending any relaxation in the business of their fabrication at present. At the same time, seeing a possibility that lighter engines may be made successful in the passenger service, and well knowing that such will be less injurious to the rails, and to the wheels, an anxiety is felt not to lose sight of the project of a more complete adaptation of the weight to the strength of the resisting materials.

Coaches for passengers have claimed the serious attention of the engineers and officers of this Company within the past year: and it has been found, on trial, that a coach upon eight wheels is easier, and every way more comfortable, to the passengers, cheaper in cost of construction and repairs, and less injurious to the railway, in proportion to the number of persons carried, the motion being more smooth and steady than those of four wheels. When eight wheels are employed, each end of the coach is supported by a frame having four wheels, the two pairs of which may be as near together as will permit the flanges of the wheels, two and two, to revolve, without being in contact with each other. In this way each set of four wheels will traverse a curved road easier than when the axles are further apart, as they necessarily must be in a coach with only four wheels. The coach has strong side frames of wood, plated with iron, and rests with bolsters upon the wheel frames, to which it is attached by means of a *rose* or centre bolt, permitting each set of wheels to assume, independent of the other, any direction the road may require. These coaches may have apartments to contain from 8 to 12 persons each, whilst the number of apartments in a coach may be 3, 4, or even 5. Coaches with eight wheels will be safer from accident, it is believed, than with four wheels; in fact, they are much more convenient and appropriate, in all respects, for railway conveyance; and this kind of coach has accordingly been adopted.

Steel springs are still being placed upon the burthen cars as well as upon the coaches, and with evident economy in every respect.

Wheels of cast iron upon the cars of burthen, as well as upon the coaches, have stood the test of experience, and have come up to our most sanguine expectations. This description of road wheels has, in a word, been entirely successful. The method of completing the chilling process by means of the introduction of a malleable iron ring into the casting, mentioned in the last annual report as invented by Phineas Davis, has been successful. At first the ring was found to have been placed too near the face of the wheel, and the consequence was, that the thinness of the chilled metal caused it to give way from the action upon the iron rail. To remedy this defect, the ring was made of rather smaller wire, and, in casting, was removed further from the face of the wheel; this modification proved altogether successful, and the most economical wheel possible for railroads has thus been perfected. The wheels for burthen cars and for coaches are cast in the same chill, and are 30 inches in diameter, with 12 arms. The ring is of round wire half an inch in diameter, and it does not approach nearer to the face of the wheel than half an inch. The wheel of the burthen car weighs 222 lbs., and of the passenger coach 260 lbs. In the cast iron wheel of three feet diameter, for the locomotive engine, the size and position of the malleable ring has not yet been satisfactorily determined. In the wheels of this kind last put in use, and within a few days past, the ring is of less thickness than previously used, being reduced from ⅞ to ¾ of an inch, at the same time that it has been placed further from the flange, and ¼ of an inch further from the face of the wheel, being now ¾ instead of ½ an inch from the exterior of the rim. It was found that with the larger ring lying under the coned part, next to the base of the flange, having the ohilled metal only ¼ an inch in thickness, immediately over the ring, the rim cracked, and by degrees gave way, to the great injury of the wheel, and in one instance so weakened it, that, upon striking a stone, the flange gave way. This was the casualty in which the Arabian engine was thrown from the road, as already mentioned. Previous to this occurrence, symptoms of defect in the face of those wheels had been observed, and was attributed to the true cause, being the same as had been effectually remedied in the wheels of the cars and coaches, and engine wheels were immediately cast, containing a ring of smaller diameter placed further from the face of the wheel and from the flange. It is believed, that this arrangement and change of size of the ring will obviate the recurrence of the defect that had been experienced. Other and further precautions, however, to strengthen and render more durable the engine wheels, have been matured, and will be adopted in all future castings of them, and it is not doubted that the cast iron wheel of not more than 36 inches diameter can be made secure, and safely used upon the engines, as has that description of wheel, 30 inches in diameter, been most successfully upon the cars and coaches. Nor will the duration of the cast wheel be less than was estimated in my report upon the Washington Lateral Railroad. I am happy further to add, in this place, my conviction that the estimates for the construction of that road, and for the cost of the motive power and machinery upon it, will not be transcended.

Patterns for the cast iron fastenings of the rails, and for the turn-outs upon the lateral road, are in progress of completion, under the immediate care of the assistant engineer of machinery, Ross Winans, with whose assistance, these fixtures, and the form of the rail, have been matured. The turn-outs will be such as are best calculated to facilitate the passings of locomotive engines.

As regards the business of transit and of revenue within the year, upon the Baltimore and Ohio Railroad, I refer to the report which will be made by the able and very vigilant superintendent of transportation, William Woodville.

Respectfully submitted,

J. KNIGHT, Chief Engineer.

A Few Words in Behalf of Mathematical Science.

[From the London Mechanics' Magazine.]

MR. EDITOR,—Will you permit a foreigner (a Swiss) to make a few remarks on Mr. Cheverton's article on the value and importance of mathematical science.

In the first place I must state, that had it not been for the false aspersions he has heaped upon some of the most illustrious of my countrymen, and more particularly on that excellent man Euler, I should have left him to enjoy all the honors and benefits that may arise to him from the said article.

In the first observation he makes upon Euler, he says, "the most valuable method of determining the longitude was at last accomplished through practical means, and by practical men. Euler aimed to produce an achromatic lens as well as Dollond, but it was the latter who succeeded; and their respective modes of proceeding mark both the character and comparative value of their efforts."

Well, in all this there is, perhaps, nothing very extraordinary (upon the supposition that Mr. Cheverton's statement is true.) Euler belonged to that useless race of men called mathematicians (according to the Chevertonian philosophy), and Mr. Dollond (Mr. John Dollond I presume he means) was certainly a first rate optician; not only so, but *also* (much to his discredit, no doubt,) a clever mathematician, and an able astronomer.

Mr. James Gregory, professor of mathematics in St. Andrew's, as it appears from his "Optica Promota," showed how a telescope with specula might be constructed; but this unfortunate mathematician being neither an artist, nor having any turn for practical mechanics, was himself incapable of realizing his own invention by an actual construction, although he had demonstrated that to form a perfect image of the object the speculum must have the form of a parabola. I might here, Mr. Editor, pause to inquire whether the arts or science at this period were in advance: but the question would carry its answer along with it. The unfortunate Gregory could not find a single artist in his own country that could grind a speculum for him. Poor Scotland! this appears to be a stain upon your escutcheon. But why, it may be asked, did not Gregory apply to some of the English artists? The

answer is easily given. They were not, at this period, one jot farther advanced in the arts than their northern neighbors.

Soon after the period just alluded to, the immortal Newton found himself compelled to relinquish for a time his philosophical pursuits, and betake himself to the mechanical art of grinding specula. His first attempt was to construct a reflecting telescope according to the principles of his friend Gregory, that is, with a parabolic speculum. In this, however, he did not succeed; but he succeeded in making two reflectors with his own hands, which he presented to the Royal Society in 1672, the great speculums of both being of a spherical figure, although he was fully aware of the superiority of the parabolic form. During the interval he was employed in making his reflectors, he tried his hands upon constructing a refracting telescope which had been prepared by Descartes, the object of which was to *grind the lenses* into one of the figures of a conic section; and when employed in this pursuit, he made his grand discovery of the various refrangibility of the rays of light, from which he concluded, that the errors arising from the spherical figure of the lens were small in comparison with those which arose from refrangibility. He therefore gave up the attempt of constructing refracting telescopes, considering that the divergency of the rays of light, arising from the difference of their refrangibility, was always in proportion to the refracting powers of the medium. In consequence of this opinion of Sir Isaac Newton respecting refracting telescopes, all attempts to construct them free from the effects of refrangibility were, for a period of nearly seventy years, laid aside. However, some time about the year 1753, Mr. John Dollond, after many optical experiments, discovered that the refractions of two prisms, when made of different kinds of glass, might be equal, and that the difference of their refrangibility might be considerable; and that there might be equal divergency with different degrees of refraction; in short, that refraction might be produced without colors. Acting from these principles, Mr. Dollond was the first artist that produced a correct achromatic refracting telescope. And here I will ask Mr. Cheverton, if the odium, which he attaches to Euler on this head, ought not on all these accounts to have been fathered upon Newton?

I wait for his reply. I have lots more in store for him.

I am sir, yours, &c,

LEWIS FREND.

St. John's Wood, Aug. 9, 1834.

A Few More Words in Behalf of Mathematical Science.

[From the London Mechanics' Magazine.]

MR. EDITOR,—As I find I must be absent from London for two or three weeks, I will not have an opportunity during that time, of continuing my appeal in behalf of mathematical science; and as my last short article will hardly be a mouthful for your highly gifted correspondent, Mr. Cheverton, I beg leave to give him one morsel more before I take my departure.

LEWIS FREND.

St. John's Wood, Aug. 17, 1834.

Notwithstanding the opinion expressed by Sir I. Newton on the effects of refrangibility on the refracting telescope, Euler, it appears, (although a rigid disciple of the Newtonian philosophy,) was not satisfied; for we find that in 1747 he tried to prove the possibility of destroying the effects of colors on the focal image, by imitating the structure of the eye, which he considered to be the most perfect of all optical instruments.* He proposed to construct a convex lens, having its cavity filled with water, from which he expected to produce distinct vision, freed from the effects of refrangibility, and also from the aberration produced by the spherical figure of the lens. He, however, did not altogether succeed—in all probability for the same cause that Gregory failed. In truth, he was not a practical optician; pure intellect was the region of all his speculations. In 1752, Mr. John Dollond communicated to the Royal Society of London, a paper endeavoring to show that the principles advanced by Euler were quite at variance with those deduced from Sir I. Newton's experiments on the refrangibility of light; although, at the same time, it was doubtful if either the one or the other of their theories were consonant with the laws of nature. On this subject the scientific world were much divided in their opinions. At last Mr. Dollond, in order to satisfy himself, had recourse to experiments, the result of which was, that he found that he was wrong himself, and that Euler was right. Being thus cured of his former prejudices, although not liking the expedient of enclosing water in the lens, he at last, after four or five years of fatiguing research, succeeded in constructing an achromatic refracting telescope, in the way mentioned in my first article. And here, Mr. Editor, I cannot help thinking, that although Euler did not succeed, still the discoveries he made as to the method of destroying the errors arising from the effects of colors on the extremities of the focal image were the means of directing Mr. Dollond in his construction of the first refracting telescope, which he produced in the year 1757. However, be that as it may, he was more fortunate than Mr. James Gregory; he lived to see, and was one of the first to congratulate Mr. Dollond on his great achievement. He was too much of a sage to indulge in any peevish reflections on this seeming triumph of Mr. Dollond. Different was the fate of Mr. James Gregory: he did not live to see a construction of his reflector, according to his own principles, although Newton with his own hands had attempted it. However, in 1724, Mr. James Short, a first rate artist, and highly celebrated for his mathematical and astronomical attainments, succeeded in constructing a telescope according to the principles of the first inventor.

What Mr. Cheverton means when he says that the most valuable method of determining the longitude is by means of the telescope constructed upon the principles of Mr. Dollond, I am at a loss to guess. Does he mean that of finding the longitude at sea?† If so, I am compelled to inform him that he knows nothing about the matter. Hadley's reflecting quadrant and sectant, as improved by Ramsden's dividing engine, must rank as one of the greatest mechanical discoveries that ever was made in aid of nautical (or, I might add, practical,) astronomy. It is now universally used at sea for determining the longitude. While mentioning the names of Dollond, Short, Hadley, and Ramsden, those of Graham and Bird ought not to be forgotten; they equally distinguished themselves in their various mechanical and optical discoveries. The only charge that can be brought against them that can diminish their reputation in Mr. Cheverton's estimation, is that they were all more or less addicted to the useful studies of geometry and astronomy. Indeed, I have heard that one of them (whose name perhaps it would be improper to mention) indulged himself in the sinful practice of acquiring a knowledge of the higher analysis.

I shall have yet something further to say at a future opportunity; meanwhile, I beg to subscribe myself, Mr. Editor, your very obedient servant,

LEWIS FREND.

MECHANIC POWERS.—An experiment was made at Brussels on the 16th, at the house of the mechanician Lemaire, *rue de l'Eskylier*, No. 10, with a machine moved by a force not hitherto employed in mechanics. That force is Galvanism, which developes the magnetic property of iron. The new machine is composed of a flying (*volant*) horizontal wheel of copper, in the plane of which is placed a bar of iron, rendered magnetic by a galvanic pile. The bar carries round the wheel between two fixed magnets, but as soon as the ends of the bar reach the points of equilibrium, the electric current changes its relations, and replaces by repulsion the attraction which directs the bar. The latter, in consequence of the accelerated motion it has acquired, passes the position of equilibrium, and continues its rotary motion in the same direction. The experiment had complete success. The machine moved upwards of an hour, and its accelerated motion excited hopes that it may be ere long employed to move considerable masses. The great magnetic energy given to magnetism by a galvanic current is already well known, and be that, however, as it may, mechanics will henceforth be in possession of a new power. The machine, constructed with great care and success by Lemaire, was the invention of a Professor of Brussels, M. Guillery.—[Courrier Francaise, Aug. 4, 1834.]

It may be made a question, whether the machine put into operation at Brussels can, with strict propriety, be designated a new mechanic power, whatever may be the useful purposes to which it may be applied. The latter is, indeed, the only important subject of inquiry as regards that or any other invention or discovery.

Is there not a real and long known mechanic power, which has yet never been enumerated amongst those so entitled? We answer, there is such a power, and it is the pendulum. And more, the pendulum is the *power* of all others by which the greatest weight can be raised and moved by the least *force*. In many situations also, the pendulum could be applied to great effect, as, for instance, in stone quarries, in warehouses, to facilitate innumerable operations, in the lading and unlading vessels at wharves, &c.

Though simple in itself, very few persons reflect that in moving a pendulum, every

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* I do not know what Euler's opinion on this head might have been 19 years afterwards, when, unfortunately for himself and science, he became totally blind.

† The writer of this article has had considerable practice, both at sea and land, in taking and working lunar observations.

point in it is actually raised, as the axis is a radius of a circle, the centre of which is the point of suspension. The pendulum again is a power admitting the aid indefinitely of accelerated motion, admitting, however, that moving on the principle of the sling, as the motion would be accelerated, a centrifugal force would be produced in direct ratio with the rapidity given to the machine.

These hints on the pendulum are thrown out as recalled to the mind of the writer when translating the account of the Belgian machine, and may have been, and probably actually have been, suggested by others, as the subject seems too obvious not to have occupied minds engaged on the subject of mechanic forces.—[Nat. Intel.]

To the Editor of the N. Y. American :

The practicability and safety of navigating our coast by steam, being fully established by the success of the line of Steamers between this port and Charleston. I beg, through the medium of your Journal, to call public attention to the immediate formation of a line between New York and New Orleans, via the isthmus of Florida, by which the mails and passengers can to transported in nine days from port to port.

Two separate companies have already been started, one in Boston, the other in Savannah, with the intention of applying next winter to the Assembly of Florida, for an act of incorporation to construct a Railroad from the St. John's of Mexico. It will require time to construct a railroad; and the distance by land is so short, that the line might at once be formed, by placing post coaches and horses on the road across the Isthmus, which would run over a high dry ridge, and would be made at an expense of $50 to $100 per mile; and from much conversation with merchants of New Orleans and Savannah, I feel authorized to say, that provided the whole line is arranged, the former will provide steamers to run between the Savannah and New Orleans, and the latter transport the mail and the passengers from the Savannah to the St. John's River in a steamer, and provide post coaches to take them across the Isthmus.

The communication between New York and Charleston is already established, and materials exist for the formation of the remainder of the line, if brought together: and in the hopes that something may be done at once to connect this city with the Great Cotton Market of the South, I annex the outlines of the proposed route. Yours,

New York, 24th Nov., 1834. R. P.

Memo. of proposed route.

	miles.	*hours.*
New York to Charleston,	650	90
Charleston to Savannah,	90	12
Savannah to forks of Black Creek, (tributary to the St. John's River,)	210	30
Navigable for Steamers of the largest class.		
Forks of Black Creek to Suwannee river on Gulf of Mexico,	50	12
A harbor has lately been discovered at the mouth of the Suwannee admitting vessels of 12 or 14 ft. draught.		
Suwannee river to New Orleans	500	72
	1500	216
	Or	9 days.

There are converient bays every 30 or 40 miles all along the Gulf of Mexico, which would afford safe harbors of Refuge in case of storm.

Railroad Accident and escape from Danger.—The Gazette mentions that on Tuesday afternoon, the half past two o'clock car from Newark, was driven, by the carelessness of the driver, into the aperture occasioned by opening the drawer of the bridge over the Passaick, for a vessel to pass, with a concussion that injured many of the passengers, about twenty in number, severely. Fortunately, the frame work of the bridge sustained the car, and probably saved the lives of many, as the distance the horses were precipitated was about twenty feet or more. The escape is almost miraculous, and there should be some regulation as to opening the drawer at this bridge, as the declivity is sufficient to very much increase the speed or velocity of the car.

[*From the Baltimore American.*]

The investigation which has been made in reference to the late outrage and murders on the line of the Washington Railroad have led to the arrest of several persons, but nothing has yet transpired which implicates any one in the deed of blood.—From the number of persons concerned in it,—from twenty to thirty have been seen in and about the shanty at the time of the murders,—there is hardly a possibility that the miscreants can escape detection.

From the Gazette we learn that on Saturday night the rioters forcibly entered a tavern kept by Mrs. Harrison, 18½ miles on the Washington turnpike, usually called the half-way, of which they kept possession, appropriating to their own use every thing which they wished. Another party broke into Mr. Wheelock's store, one mile this side of Mrs. Harrison's, and took away all the goods which they could find, the larger quantity having been previously removed by the owner.

The citizens of Ann Arundel county have met at Waterloo, and have established a guard to assist in keeping the peace, which, with the effort of private individuals and other measures now in progress, it is thought will restore tranquility.

P. S.—The last accounts,—received since the above was in type,—represented that the infatuated wretches at the scene of the late outrage continued in a state of high and violent excitement, and seem determined to set at defiance all restraint or law.—They have now become the terror of the surrounding country, and there no longer remains any question but that the most prompt and efficient measures have become indispensable for their apprehension and punishment.

A detachment from the Light Brigade, with Captain Bouldin's troop of the Third Brigade, under the command of Lieut. Col. Campbell, has been ordered to the Washington Railroad, and will leave the depot in Charles street at 9 o'clock (or soon after) this morning.

It is hoped that the companies detached will be full and there is no doubt that the service for which they are detailed will be well performed.

Sculpture.—The eyes of amateurs have been lately agreeably directed to an excellent bust of the venerable John Watts by Hughes, exhibited for a few days past in the Exchange; and we have now to mention that Frazee has (through the liberality of Mr. George Rapelje of this city) just completed a work, which, though unambitious of its kind, is yet one of the most tasteful and delicately finished productions of his chisel.

It is a monument erected in Grace Church to the lamented Mr. Colden, bearing upon it a fine medallion likeness of that distinguished citizen, and graced with the following inscription:

To the memory of
Cadwallader D. Colden,
For several years Mayor of this city, a Senator of this State,
And one of its representatives in the Congress of the U. S.
His talents and public services added a lustre to these and many
other honors and trusts bestowed upon him by his native city.
He was alike eminent for legal learning and eloquence,
for ardent love and pursuit of general science,
and for successful application of all his acquirements
to the best interests of his country.
As his philanthropy and patriotism
commanded the confidence and attachment of his
fellow citizens;
so his kindness, frankness, and generosity,
won the warm affections of his family and numerous friends.
By one of whom, who, having witnessed most nearly,
can best estimate his worth,
this monument is erected.

Earthquake in Santa Martha.—Advices from Angostura give some particulars of the destruction of Santa Martha by earthquake, respecting which so many reports have been current. They are furnished by advices from Caraccas, which mention that at the latter end of May the eruption of a frightful volcano, preceded and succeded by forty-five shocks of earthquake, had caused a part of the town to be submerged. Almost all the buildings had been destroyed, both great and small, but it was not supposed the loss of life had been great, as the population had fled to the woods by which the surrounding heights were covered. Some few houses remained standing among the mass of ruin, but the whole neighborhood was one scene of desolation and misery, and the inhabitants depending upon chance for a precarious subsistence.

Temperance Societies and Temperance reform which have produced so vast an amount of unquestionable good in this country, where first they were seriously undertaken, are, we are glad to find, making their way successfully in England.—It is another installment paid of the debt we owe to the mother country, for the many benefits derived from her precepts, and her example; that we have thus given her the theory and the practice of Temperance Socities.

We have before us some letters and statements on this subject, from Birmingham, which, as most of our readers know is a large manufacturing city of England, very populous, and the mass of its population operatives. Subject as this mass is to be thrown out of employment by any checks or disasters in trade, and—by reason of great competition and of the mischievous construction of the poor laws, which have been perverted to support able bodied working men, instead of the cripple, the aged, or the infirm—receiving in the best times barely wages enough to support life—it will be at once perceived that to such a population the temptations to intemperance as drowning for a time at least the sense of suffering and the hopelessness of want, must be very powerful. If then the voice of the advocate of temperance can be made to provail there—and the *ascertained* facts be circulated which prove that strong drinks are more fatal to comfort, health and happiness, than even the lowest wages—a great step will be already gained in the good cause. That such is actually the case now in Birmingham, will be gathered from the extract we subjoin:

Extract of a letter from Mr. Chapman, dated Birmingham, 27th August.

I have already told you, that Mr. Livesey's admirable lectures had made a deep impression, and from what I had heard, I suggested the *probability*, that if some mechanics, pupils of Mr. Livesey, and accustomed to discussion from Preston, were to come here, our men might catch the flame, and then we might go on with our own lamps. A few friends met, and at length we agreed to try the effect. Mr. Livesey sent us a blacksmith, a shoemaker and tailor, and what between the *fire* of the *blacksmith*, the *awl* of the *shoemaker*, and the *needle* of the *tailor*; Birmingham is in a tremendous storm. Our friends commenced on Tuesday evening, the 12th instant, at the large chapel, in Livery street, which we engaged for the occasion. Here, also, on Wednesday, Thursday, and Friday evenings to crowded meetings of mechanics, did our Temperance heroes defend themselves against all gainsayers. They are advocates of the most exclusive system a Rechbite could desire; they touch "neither wine nor strong drink." After all this, I hoped, though not confidently, that we had gained a point, and I ventured to give notice on Friday evening, (as our Preston friends were to return next day,) that the Birmingham mechanics should have an opportunity of trying their skill on the following Tuesday evening; when the evening arrived, the chapel was crowded, and after having persuaded one mechanic to take the Chair, and another to commence addressing the audience, we soon got to work, and a glorious night it was. I had adopted this plan before, telling the men that it was *their* meeting, they should have a mechanic in the Chair, which was adopted each night. My old friend *Brittain*, whose interesting letter you must have seen, presided the first night; on another, a notorious but reformed drunkard, a *razor grinder*, was our *Præses, and remarkably well they managed*. On another occasion a *button maker*, and at another, a tailor. Before the meeting closed on Tuesday night, I informed the audience, that I had procured the use of the chapel for the week, and if they wished the meetings to continue, they need only to say so; a burst of acclama-

tion at once settled the point, and up to Friday night, they have been kept up with unabated energy; I then postponed them until yesterday evening, (Tuesday,) when we had another meeting equally full and encouraging. This advance is ascribable to two causes. 1st, The searching character of the addresses, with respect to the nutricious qualities of *ale*, by the Preston mechanics; and 2d, The interest men feel in hearing discussions by those of their own class. In Lancashire, they now use a term peculiar to themselves;—they call an *abstinant*, a *tee-totaller*; that is, he totally abstains from all intoxicating drinks. The pressing of this point, so directly crossed the path of our prejudices, that it could not but produce discussion, discussion has lead the trial, and trial to conviction in many, that strong drinks are wholly unnecessary. Of course, there are conplicating opinions, but not one apologist now rises for spirit-drinking! This is a great advance of public opinion. Still, of course, there are many who indulge in this vicious habit; but the time appears just approaching when drinking to excess in public will not be tolerated, and when private tippling will have very few admirers. I anticipate this change from the way in which the Temperance reform, will probably be ultimately worked in England. There is an energy of character in English mechanics, which when once roused, is not easily controlled. Many events of late have proved this. But hitherto, all their movements have been accompanied by intemperance, and their efforts have been directed to the removal of effects, leaving the causes untouched. Bubble after bubble has floated before them, and they have as eagerly chased them; yet they have not advanced one step; at least, their wives and children are as short of clothes, and their cottages of furniture, as ever. And why this? simply because, no matter what, their wages were, they went in drink; and for this the Tailor and the Shoemaker contended just as regularly as the Blacksmith, or the Sawyer. Now the following is seen through: The leaven is working; one workman tells another; the points are discussed; but what chance has an emaciated body, and an empty purse with a worthless character, against health, and comfort, and respectability? These are witnesses, which laugh opposition into nothingness.—But these witnesses are sure, and they are working too: and what master, who can have a steady, sober, good workman, will be plagued with a drunkard? It is like a smart, active little enemy battering the hide of an unwieldy antagonist. He stands no chance. Now this feeling is precisely what has commenced here. It will be carried to other large towns by mechanics: and so spreading from one town to another, the cause will advance with giant steps. From the large towns, it will drop into the small ones; and from them into the villages. In the meantime, the tree will bring its fruit to perfection; and the more it bears, the more it will thrive. The real property of this country is so great, that it *can* almost accomplish any thing *possible*; it has performed prodigies, while a canker worm has been consuming its vitals—while *two millions* of *pounds* sterling have every week been *spent* or *sacrificed* to the demon INTEMPERANCE. But when this *maelstrom* to all prosperity shall cease, when popular opinion set in, in another opposite direction, who shall tell the effect?

The writer then enters into further reasoning on the subject, all expressive of his faith that "the little cloud which has crossed the western ocean, spreading far and wide, and distilling the dews of mercy," will prove a mighty instrument in advancing the great cause so dear alike to humanity and religion.

In a subsequent letter of 22d Sept., the same ardent friend of the cause writes,—

"Temperance is going on here finely. It is indeed Temperance! No half way way measures will do. Our new converts outrun the old ones, and the old find they must become *abstinents*, or give it up, so far behind does the zeal of the *teetotallers* leave half-measure men. By the bye, I am surprized to find that our best men are more and more convinced that even ale is not necessary, but absolutely injurious, though taken moderately. They explain the objection to it to be, that it produces inability to take sufficient eatables, particularly at breakfast. You would be delighted to see the energy of our mechanic's now. They fixed to have two open-air meetings yesterday (Sunday) in two of the worst parts of the town. Scarcely a night now passes but they have a meeting. I have a small still which I carry to these meetings and use in extracting the spirit from ale, in the presence of the people, and then I burn the Devil. The effect of this is tremendous."

The writer expresses his confidence, that the spirit which animates the mechanics of Birmingham, would soon extend to other large towns, and thence into the villages and hamlets. In conclusion, he relates the following anecdote:

At a late and large Temperance meeting, held at Livery street Chapel, Birmingham, England, while Mr. Chapman the Secretary was speaking, an old soldier who sat before him, interrupted him by calling out, "*he had often proved a glass of rum to be a good thing; and that he had served in the hot and in the cold, particularly in the Indies.*" "Very well," said Mr. C., "there are many here who can recollect that when Bonaparte was in Egypt, there was a strong force marched across the Great Desart of Arabia to meet him on the sands of Egypt." "Yes," cried the veteran, "*I do for one, and was one who was in that march.*" "Well then," said the Speaker, the meeting rising in excitement as he proceeded, "I ask you now, my old friend, whether in consequence of the difficulty of carriage, the army, though subjected to the severest fatigue and incessant toil, were without any spirit rations at all?" "*That's true,*" cried the veteran. "Yes," said Mr. C., "and Sir James M'Gregor, the Surgeon General of the forces, repeated that the effect was such, that though the men marched under a burning sun of from 114 to 118 deg. of Farenheit, THE INDIAN ARMY WAS NEVER SO HEALTHY." Thunders of applause hailed the testimony; while a great point was gained in another view of the case. The meeting had before it a living witness to the truth of a statement, which, though made without reference to Temperance Societies, proves beyond the power of contradiction, that the principles are as the basis of the earth itself.

Might we not here borrow from Birmingham, the excellent notion of mechanics meeting, for the discussion and advancement of the doctrines of temperance? In this way, good men are good examples, although a rolling ocean intervene, act and re-act upon each other, in the promotion of a great common cause.

Description of Panama.—"Panama is principally built of stone, stuccoed. The houses are spacious and substantial, and generally three stories in height, as the place is not subject to violent earthquakes. The city bears a look of departed grandeur. The churches are spacious, and are built in the fantastic style of architecture introduced into Spain by the Moors. There are a number of extensive convents, most ruinous and untenanted. In one of them that overlooks the walls of the city and the bay, a few sallow, withered, and melancholy looking nuns were occasionally to be seen at the windows. The Government houses is a fine stone building; but a tank of hewn stone in which a fountain (now dry,) formerly played, the broken marble pavement of the grand hall, the defaced balustrades of richly carved stone, and the once painted ceilings now mouldy discolored, and crumbling, only showing in spots traces of the original designs, all tell of decay and poverty.

"The general aspect of the city comports with the desolate appearance of the public edifices: every thing has the same look of decay. Grass springs up between the stones of the pavement; the stucco has fallen in patches from the walls of the houses; troops of the black carrion vulture sit ranged in files along the roofs, or hop unconcernedly about the streets, as they are never molested, being the only scavengers; the inhabitants, sallow and miserable from the effects of the noxious climate, stroll listlessly along the streets, or sit in the doorways and belconies dozing away life. The city is said to contain seven thousand inhabitants, of which about seven-eighths are black and brown. No such thing as a hotel or tavern is known in the second floor of a house large enough to have quartered a regiment.

"Panama is a walled town; and that part of the walls which borders on the bay, is very fine masonry, thirty feet broad at the top, forming a beautiful promenade, commanding a view of the lovely bay, and much frequented during the fine season. Very few cannon are remaining on the walls, which are undermined in two or three places by the tide. On the left of the town stretches a long beautiful beach of fine white sand, narrow, and bordered by a dense thicket of luxuriant foliage, as if vegetation grudged space for the flow of the tide. At intervals, the thicket is interrupted by the palm thatched cottags of the natives, overshadowed by lofty cocoa nut trees, in front and on the right, as far as the eye can reach, the bay is dotted with small, green, fairy-looking islands, all together forming a picture whose beauty I have rarely seen equalled. The pearl fishery is still pursued in these islands, and large quantities of beautiful pearls are annually procured. Foreign vessels are forbidden to touch at these islands without special permission from government, under pain of forfeiture. Green turtle are abundant about these islands, but the islanders will not suffer them to be caught, as they assert that the sharks feed on them; and that, by lessening the supply, these voracious fish will be rendered ravenous, and more likely to attack the divers. As it is, accidents happen often. The bay is the resort of immense flocks of pelicans and other water fowl, which find in the abundance of fish an easy subsistance; and which, at sunset, wing their way in long-drawn lines, from the shore to their roosts in the islands, and by their noiseless and even flight to their places of rest, add to the idea of repose which the whole scene at this hour so strongly suggests."—[Terry's Travels in South America.]

Russian Tyranny.—THORN, SEPT. 26.—*General Biernacki.*—It is our painful task to announce the death of the brave Polish General Biernacki, brother of the Minister of Finance of the national government. He expired in the Russian dungeons, at Zamosc. The name of this General ought to be well known in France. He distinguished himself in the wars of Italy and Poland; he fought gallantly at Trebia by the side of Dombrowski, and in 1812 he commanded the advanced posts of General Regnier at Kalisch. In this battle he was dangerously wounded, and taken prisoner by the Russians.—Joseph Biernacki appeared again in the revolution of 1830, and put himself at the head of a *corps d'armée* in the district of Kalisch. When the brute force of the Autocrat triumphed in Poland, the General, seeing it impossible to escape, retired to his estates, and remained unmolested. In 1833, Major Wrinicki, returned to Poland from France. He remained concealed upon the property of Joseph Biernacki. The government having obtained possession of this fact ordered the arrest of General Biernacki, and that honorable man, refusing to denounce the patriot, was, by military commission, sentenced to three years' confinement in the dungeons of the fortress of Zamosc. He has fallen a victim to the severity of Russia, leaving a wife and four children to deplore his loss. Major Wrincki was shot some time ago.

Important Invention.—Dr. Majendie has made a report to the Academie des Sciences upon an instrument invented by Dr. Hérisson, called the Sphygomomètre, which shows the rate of the pulse, its rhythm, and anomalies. In pursuance of the conclusions of the eminent reporter, the Academy passed a vote of thanks to the author of this most useful and ingenious discovery. Dr. Hérisson has published a memoir, showing the results of his several applications of this instrument in studying the disease of the heart. After six years of clinical researches, supported by numerous anatomical proofs, it is found capable of distinguishing organic affections from cases which only assume the appearance of such affections. As the Sphygomomètre gives the numerical force of the pulse, it has now become possible, according to the observations of Dr. Hérisson, to prevent such attacks of apoplexy as arise from a too great determination of the blood towards the head. By this instrument also, may be calculated the effect of blood-letting upon the strength of a patient. It is, therefore, a most important invention, and must excite the attention of all persons, whether French or foreigners, who are capable of appreciating its qualities.—[Galignani's Messenger.]

A Lapland Summer, including also what in other countries is called Spring and Autumn, consists of fifty-six days, as follows:

June 23, Snow melts,
July 1, Snow gone,
9, Fields quite green,
17, Plants at full growth,
25, Plants in full blow,
Aug. 2, Fruits ripe,
10, Plants shed their seeds,
18, Snow.

From this time to June 23, the ground is every where covered with snow, and the water with ice.

The Royal Yacht Club, at the close of the present season, consisted of 148 members, owning 101 vessels of 10,000 tons burden, and employing, during the season, not less than 1200 seamen.

NEW-YORK AMERICAN.

NOVEMBER 22—28, 1834.

LITERARY NOTICES.

THE CONSTITUTIONAL GUIDE; comprising the Constitution of the United States, with Notes and Commentaries from the writings of Story, Kent, Madison, &c. Compiled by R. K. MOULTON. New-York, G. & C. CARVILL & Co.—We rejoice at finding that so many persons are turning their attention to the study and exposition of the Constitution, looking upon the spirit which prompts these researches and publications as surely indicating a salutary bias of the public mind towards such inquiries.

The Guide here offered by Mr. Moulton is an excellent one; differing, at the same time, in many particulars from any we have seen before. The text of the Constitution is carefully printed in exact and literal conformity with the original MS. on file in the State Department; and to each article notes are annexed at the bottom of the page from the Federalist, the Commentaries of Judge Story, those of Chancellor Kent, and from Wheaton's Reports, shewing the actual construction given to every provision which has been made the subject of a question. There are too dissertations in the same form of Notes, by the Compiler, in more immediate reference to questions of recent occurrence, which evince patient research, and, as we view it, a just perception of the true spirit and intent of the Constitution. Among these original views, we particularize as especially deserving of notice, an examination of the doctrines of the Protest—an inquiry into the right of the President to dismiss at pleasure all or any officers for opinion's sake—and a discussion of his claim to direct the conduct of Executive officers in matters confided by law to their individual discretion. Much as all these points have been mooted, there will be found strength and originality in the exposition of them by Mr. Moulton.

A second part of this volume, and making nearly one half of its bulk, is devoted to "a Legislative and documentary history of the Banks of the U. States," with notes and comments by Mr. M. The same searching spirit, fairness of investigation, and decision in the statement of conclusions drawn after laborious investigation, are apparent in this, as in the former part of the book; which, as a whole, we cordially recommend to all who would have a great deal of good doctrine and useful information in a small compass.

SELF-CONTROL, a Novel; by MARY BRUNTON, 2 vols.; KEY & BIDDLE, Philadelphia.—This republication of a novel of some standing and of approved merits, is well-timed and judicious. Its title denotes its moral; which is the necessity and advantage of accomplishing that most difficult of all victories—the mastery of one's self. It is not, however, a prosing homily; but a tale full of incident and adventure.

THREE YEARS IN THE PACIFIC, including notices of Brazil, Chili, Bolivia and Peru, *by an Officer of the U. S. Navy;* 1 vol. 8vo; *Philad., Carey, Lea and Blanchard.*—This is an agreeable volume, written in a sketchy, off-hand style, and presenting the impressions of an observing and intelligent man on the passing scenes of the countries—new yet in so many respects even to us, the inhabitants of the same continent—through which he flitted.

It has the merit of vivacity, without the pretension of judging in a ten days visit, the manners, habits, intelligence, &c. &c., of a whole nation.

NOUVELLE ET SIMPLE METHODE DE LANGUE FRANÇAISE; par E. C. S'ALME. New York: CHARLES DE BEHR.

FIRST GUIDE TO THE ITALIAN LANGUAGE; by L. L. DAPONTE. New York: CHARLES DE BEHR.

The first of these Grammars, or Guides to a foreign language, is only adapted to such as have already acquired some knowledge of French. For these, and for those to whom French is a native language which they have nevertheless not studied, this Simple Method will be of use.

The First Guide to the Italian Language is short, clear and explanatory, without being incumbered with rules, or unintoresting dissertations. It is a little pamphlet, in English, which the frequenters of the Opera, among others, might find benefit in studying.

THE PROTESTANT EPISCOPAL PULPIT, for November; N. York, JOHN MOORE.—This number has a sermon by the late *Dr. Jas. Montgomery*, of St. Stephen's Church, Philadelphia, (formerly of Grace Church here,) on the "Service of the Church," its meaning, excellence, &c. Prefixed to the sermon, is a feeling and interesting memoir, by Bishop Doane of New Jersey, of his departed friend and fellow laborer in the vineyard.

VATHEK, AN ORIENTAL TALE, BY MR. BECKFORD, 1 vol. 18mo. Carey, Lea & Blanchard.—This is the second American from the last London edition of the most admired work of the accomplished author of "Italy," corrected by himself. The work to which Byron allowed that he was indebted for the best of his Eastern imagery, has been long enough before the public to be established as a classic.

FEMALE CONVENTS, or Secrets of Nunneries disclosed, compiled from the MS. Memoirs of *Scipio Ricci*, Catholic Bishop of Pistoia, by MR. DE POTTER; N. York, D. Appleton & Co.—This is not a work of imagination or of bigotry, but the result of developments forced upon the attention of a Catholic community by the persevering efforts of an Apostolical Bishop, to make his religion and those who are set apart and dedicated to it, what they should be—pure and holy. To say that it proves the tendency to abuse, disorder, and crime, of monastic institutions, is only to repeat what all reflecting Protestants who understand human nature, were before apprised of. The object of its present publication here, would seem, by a prefatory address, to be, to put Protestant parents in America on their guard against the great efforts said to be making to spread the monastic and religious institutions of Catholicism among us. In this view it is a fair, and, at the same time, formidable publication—for its authenticity, we apprehend, is undeniable, and its developments certainly most startling.

CALAVAR, OR THE KNIGHT OF THE CONQUEST, a Tale of Mexico; 2 vols. Carey, Lea & Blanchard, Philadelphia.—We have not had time to read this novel, but a friend in whose taste and judgment in such matters we confide, has sent us the following notice of it. We learn from the National Gazette that Calavar is the subject of a commendatory article in the forthcoming number of the American Quarterly Review:

"Dr. Bird, has given to the world a romance entirely free from those errors and imperfections which disfigure, in a greater or less degree, every other American novel. Unquestionably he has taken *time* to accomplish this: he is evidently divested of that short-sighted ambition which has been injurious to at least one distinguished American writer, and which will ruin all who continue its pursuit—the ambition of writing novels *as fast* as Sir Walter Scott; but he can rest from his present labor with the reflection that the *time* occupied in literary composition bears an auspicious proportion to the time which the work produced may be expected to endure. Of novels, especially, we believe it is true, that those which are soonest written will be soonest forgotten—always excepting the works of the author of Waverly, whose pre-eminet genius seems to place him beyond general rules: and our American writers need no counsel so much as this—read, revise and correct *deliberately* before you publish.

Calavar is not only singularly free from those imperfections which are the inevitable result of hasty or careless composition; but it is, moreover, singularly finished and complete in those particulars where novels, usually, are utterly defective. The "unities" are perfectly preserved throughout: poetical probability is never transgressed: curiosity is satisfied: and the quaint language of three centuries ago is sustained with unwavering consistency, and with a force and elegance of composition rarely, if ever, surpassed. It is without question the best American novel that has yet appeared; and what we principally wonder at is that a writer of such exalted abilities should have kept the world so long in ignorance of the extent of his power.

One thing that we specially like in Calavar, is the *omission* of quotations at the beginnings of the chapters. Scott had genius and taste sufficient to make this sort of caption a positive embellishment; and Bulwer has imitated him with some success; but, for the most part, all others, by *attempting* the imitation, have merely illustrated the difference between reality and appearance—sense and nonsense.

TRAVELS IN THE EQUATORIAL REGIONS OF SOUTH AMERICA, BY ADRIAN R. TERRY, M. D.; 1 volume; COOKE & Co., Hartford.—Americans are allowed, we believe, to be the most locomotive people on the face of the earth; but as book-making is not one of their propensities, they so seldom give the result of their observations to the public, that almost all our impressions of foreign countries come through the medium of the British press: A medium not altogether so candid and impartial, judging by the view it gives us of things in this country, that we can rely with confidence upon the coloring which it imparts to objects. It is, therefore, with peculiar pleasure that we alway take up a book of travels by an American; for if we can never become acquainted with the manners and customs of other people without swallowing a certain quantum of national prejudice administered by the writer, it is certainly some recommendation that the potion should be manufactured at home by a countryman. The work of Dr. Terry, however, is remarkably free from any of those narrow views which impair the value of so many books of travel. It contains a great deal of valuable information in relation to a country whose interests are becoming daily more interwoven with ours; and its various sketches of scenery and manners in South America are thrown off with great ease and a total want of pretension. Travelling on horseback in so unsettled and romantic a country, must, to a young and adventurous spirit, have been extremely delightful; and we only regret that Doctor Terry has not enriched and imparted stronger character to his work, by the more frequent introduction of those little personal adventures among wild scenes and encounters with strange people, which, while they create a degree of interest in the author himself, serve to convey the most vivid impressions of those with whom he associated. It is this happy, dramatic faculty which gives such a charm to the delineations of Spanish life, and such an interest to the various wanderings of the author of "A Year in Spain." The work before us, though we do not know that its essential value would be improved, would certainly be rendered more entertaining by a greater infusion of such material, though it is by no means wholly deficient in it at present. We have already given some brief extracts from it among our miscellanies, but the followiug account of an exploring tour *into* the crater of Pinchachinca, with the other descriptive passages here selected, will bear their own recommendation with them.

Before day-break we were again on our way, wishing to arrive at the top of the mountain as soon as possible, for early in the morning the crater is generally free from the mist which fills it at a later hour. The height of the mountain at the edge

of the crater, is about 15,800 feet above the level of the sea. Mules can approach within about 500 feet of the top; the rest of the ascent must be accomplished on foot. At about sunrise we left our mules and commenced the ascent. The hill is very steep, and composed of small loose masses of lava, which afford but an insecure footing, and together with the rarity of the air render the ascent exceedingly toilsome. Sor Negrete, although, somewhat in the vale of years, astonished us by the vigor with which he pushed up the hill, proving himself fully equal in activity to any of us. When we arrived at the top of the hill the mist had not filled the crater, and we could see to its bottom, from various crevices in which a dense white smoke was issuing.—A stifling smell of sulphurous acid filled the air, and increased the oppression of breathing caused by its rarity. In various parts of the mountainous regions of South America, more especially in Peru, there appears to exist a cause, in addition to the rarity of the air, which oppresses the breathing; the effect of this appears to be far more severe than that produced by the rarity of the air merely. Both are called *zorochi*. The one of which I now speak has been attributed to arsenical vapor; it certainly bears no fixed relation to the elevation, many of the places where it is more severe, being less elevated than when the oppression of the lungs is comparatively slight. Many interesting facts in relation to its effects, were related to me by my companion from Guayaquil, who had travelled much in Peru. He particularly mentioned a small circular plain (the precise location of which in Peru has escaped my memory) surrounded by hills, and only at an elevation of a little more than six thousand feet above the sea, where the zorochi is so severe that it is necessary to let your horse or mule proceed on a walk. A brisk pace for a few yards, will cause them to fall instantly dead. This accident had occurred to this gentleman twice while in Peru; once, if I do not misremember, at this very place. There are reasons which will suggest themselves to every physiologist and chemist, which render it more likely that carbonic acid gas is the agent in the production of this effect, than arsenical vapors.

In the crevices of the black and fantastically-shaped volcanic rocks which arose round the edge of the crater, were small masses of snow and ice; but generally the top of the mountain was free from them. The crater is an immense, yawning abyss, not having the circular form which is generally described as the figure of volcanic openings, but partaking more of the aspect of a ravine. We judged the depth of it to be from fifteen hundred to eighteen hundred feet; and from the point where we stood, could see no obstacle to prevent our reaching the bottom, by following the course of a kind of ravine which was free from large rocks, and which, although rather steeper than the hill on the outside, afforded much better footing. Our Indians had not yet arrived at the top, but we determined to descend quickly, lest the mist should fill the crater; and if we came to any obstacle which we needed the crowbar and cords to overcome, we could wait for them. But we were soon destined to encounter an obstacle against which crowbar and cords were of no avail, and which put a period to our expedition. After we had descended about six hundred feet, we came to a precipice of eight hundred or a thousand feet perpendicular height, the base of which appeared to rest nearly in the bottom of the abyss. In vain did we search for some less precipitous part by which we might descend: the sloping hollow here terminated, and on each side rose high walls of rock, continuous with the face of the precipice. It was an awful place upon which we stood. Life of every kind seemed to have fled in terror from the dangerous vicinity. Not the smallest plant, not even a blade of grass was to be seen. Even the lichens, those children of barren rocks, refused to clothe the scorched and blackened surface of the crags. Not the chirp of a bird, nor the hum of an insect, was to be heard in this abode of silence; and even the condor shunned to soar within reach of the noxious breath of its vapors. Below us lay the mouldering fires of the volcano, and on the opposite side rose black and ragged cliffs, a fit boundary for such a view.

While we were gazing on this, to me, novel and extraordinary scene, the mist begin to drive up the chasm from the lower land in which the ravine terminates, and we were soon completely enveloped in a thick fog, which prevented us from seeing a dozen yards in any direction. The mist had a very sensible warmth, compared to the sharp mountain air which we had been breathing a few minutes before. Had we been inclined to trust our lives to the strength of a hide rope, in so long and perilous a descent as that of the cliff before us, the quantity we had with us would not have not availed. There was not enough to reach half way down. Our prospect being destroyed by the mist, and all hope of reaching the bottom by this road gone, we turned to ascend; and on arriving at the top, found our Indians waiting for us. In reply to our questions why they did aot come down, they replied that they were afraid, that yonder was the abode of devils; and truly, it had a most devilish smell.

Dr. Terry has no doubt that, by making a circuit of several miles, and following up the course of the ravine, the bottom of the crater might be reached.

Our other extracts are unavoidably crowded out to-day, but they shall appear hereafter. †

THE LAST DAYS OF POMPEII, by E. L. Bulwer; 2 vols.—New York: *Harper & Brothers.*—There are few of our readers who are not familiar with the theme of Pompeii. With the descriptions of its temples and private dwellings—the new offering upon the altar, and the half drunk wine upon the social board—the priest that ministered and the reveller that quaffed—that were all laid bare to modern eyes after being buried for seventeen centuries. The story, of skeletons found in every familiar position—the sentinel still standing at his post, and the miser clutching his money bags and apparently striving to pierce his way through the dense cloud of ashes by which this devoted city was overwhelmed;—the beauty by her toilet—the butler in the wine vault, and the baker with his scorched loaves, seemingly just taken from the oven beside him—mingles with the most thrilling memories of our childhood, and invests the fate of Pompeii with an interest that can never grow stale.

It is these desolated dwellings and mouldering skeletons—which the labors of sixty years have gradually disinterred from their frightful tomb—that the genius of Bulwer has attempted to re-animate with the sounds and motions that long ago were so fearfully stilled. To say that he has completely succeeded would be awarding him praise such as none but Shakspeare and Scott have yet exacted: to say that he has wholly failed, would be equally far from the truth. The conceptiou of his story is original and striking. The characters are just the phantasmagoria that should move athwart the gloom of such awful scenes; but it must be confessed, that with all the minute topographical details and learned illustration that he has brought to his difficult, perhaps *impossible* task, the execution still falls short of reality. He has achieved a gorgeous picture: he gives us a splendid dramatic representation of 'The Last Days of Pompeii;' but it is not those days themselves which we live over. The tinge of pedantry—sometimes scholastic, and sometimes dandyish—which colors all of Bulwer's brilliant writings, is not indeed so apparent in a work where classical lore must be continually in requisition; but the want of simplicity, which is his greatest defect, prevents the seal of truth from stamping what is otherwise a masterly production. No one can read this work without the liveliest admiration for the powers of its author; but no one will, on a single page, forget the author, in his ideal characters. The feminine devotedness of the high-souled Ione—the classic elegance and Promethean spirit of her Athenian lover—that delicate and elaborately finished creation, their blind attendant—the ast te wiles and magnificent profligacy of the groveling but haughty Egyptian, who is so admirably grouped with them—Olynthus, the heroic Christian, and Lydon, whose springy step we can almost behold in the gladiatorial arena—Nothing ean be finer than the drawing of any or all of these, for they are all struck from the canvass with the hand of a master—but they are all *pictures*. Like Mordaunt in the Disowned—Devereux, Isora, Eugene Aram, and all of Mr. Bulwer's most prominant characters, they excite admiration rather than sympathy; they belong to poetry rather than to life. "The last days of Pompeii," however, will, we conceive, take rank with either of these works, unless it be perhaps the last, which is certainly a prodigious favorite in this country. Our national taste is decidedly for the strange, the wild, and the unnatural. Byron is the most popular of poets among us; and there is no writer of fiction whose works are deseminated as widely through the Union as those of Bulwer. He is indeed, we have good reason for believing, a greater favorite in this country than in his own; and as his new work has been there received with the utmost praise, its success here is undoubted. It will be read with pleasure, as one of the most brilliant productions of the day; and it will be recurred to as illustrating some of the most interesting passages of Pliny and Dion Cassius; and offering with "Valerius," and "The Epicurean" the happiest representation of ancient manners through the medium of fiction.

As in a late number of the American, a notice has been taken of Mr. Allston's picture of "Belshazzar's," it will be agreeable to our readers to peruse the following extract relating to that production from Dunlap's forthcoming history of American art and artists?

MR. DUNLAPS work is looked for with so much interest that we consider ourselves happy in being able to anticipate its publication even with so slight a morceau.

"Although my large picture (Belshazzar's Feast) is still unfinished, yet I ought perhaps to say something about it, as many inquiries have been made respecting my progress in it, and the probable time of its being completed. In assigning this reason for speaking of it in this place, I do not mean to admit any *right* in the public to be made acquainted with it; for so far, it is wholly a matter between the subscribers and myself. Still I am not disposed to withhold all information from a very natural curiosity. On some accounts I cannot but feel grattified with the general interest that has been manifested in relation to it. All, however, that I can now say, is, that so soon as it is in my power to apply myself without interruption to the completion of the picture, I shall do it with the utmost alacrity; and that when circumstances will admit of this, it will not take a long time to finish it. If the subscribers to it have been anxious for its completion, many and many-fold greater has been my desire to see it done: and great indeed would be the relief to my mind. I could long ago have finished this and other pictures at large, had my mind been free: for indeed I have *already* bestowed upon it as much mental and manual labor as, under another state of mind, would have completed several such pictures. But to go into the subject of all the obstacles, and the hindrances upon my spirit, would hardly be consistant with delicacy and self respect. Nor could I be far enough understood if I should do it, to answer by it any essential purpose. Those feelings which are most intimately blended with one's nature, and which most powerfully and continuously influence us, are the very feelings which it is most difficult to give any distinct apprehension of to another. For this reason then, as well as for the other assigned by me, I will be silent respecting them. I may add, however, in conclusion, that I have the prospect of a time, not very far distant, when I expect to be in a condition to complete this picture; an event which is not possible for any one to desire more than myself."

Mrs. Butler's Journal.—This work will be issued from the press, *verbatim et literatim*, from Mrs. Butler's original notes, penned at the time of which she speaks. The London edition will be word for word, the same as the American edition; the printed sheets being sent from the city as soon as worked off, to the English publisher. The publication will be simultanous on both sides of the Atlantic.—If on greater familiarity with America, its manners and customs, the first impressions of the authoress are modified, it will be so stated in notes without meddling at all with the body of the work.—[Philadelphia Paper.]

FOREIGN INTELLIGENCE.

LATER FROM FRANCE.—By the Rhone, from Havre, Paris papers to the 23d ult. are received. We take our extracts from the Journal of Commerce. There is very little of general interest in our papers, which, however, are not later than the 16th.

Extract of a letter of the 17th inst. from Cambo, in the Basses-Pyrenees:—"General Mina is still here. His health has undergone a considerable change for the better, and his friends and medical attendants believe that in a few days he will be able to enter upon the campaign. He has, however, not been allowed to resume his usual food, though he mounts on horseback, and talks very cheerfully of himself and his prospects. But, in the opinion of every body, a capital fault has been committed by the Spanish Government in not giving to Mina the undivided command over the revolted provinces.—Half the chances of success are thrown away by this half distrust—half confidence.

Extract of a letter of the 18th inst. from Boulogne.—"The members and subscribers of the Humane Society here, accompanied by several of the authorities, took advantage of the gale, or rather tempest, yesterday, to make trial of the life boat which had just arrived. She acted extremely well, ploughing through the tremendous breakers as they rolled towards the shore, and in almost every respect answered the humane purpose for which it is intended.

The *Semaphore* of Marseilles of the 19th instant has the following:—"M. Ferino, the Receiver General for the Bouches du Rhone, will shortly go to Paris to confer with the Minister of the Finances as to establishing a Bank at Marseilles. It appears that this useful institution will be immediately set on foot in this town. The capital will be two millions of francs."

Accounts from Dieppe and Havre state that considerable damage was done by violent tempests at these ports. The terrace of the bathing-house at Dieppe has been undermined in many places, and the engine-house has been sapped to such an extent that it is only supported by props hastily set up. Great numbers of North American birds have taken refuge in that town. At Havre considerable damage has been done on the beaches of Perrey and Saint-Adress.

LATER FROM LIVERPOOL.—By the *Roscoe* we have our London papers to the 24th, and Liverpool papers to the 25th. They are absolutely barren of news. In Spain and Portugal affairs remain *in statu quo*. The marriage of *Donna Maria* seems to be calculated on with the son of *Beauharnois*—the French minister having remonstrated in vain against it, had left Lisbon.

The death of Earl Derby, remarkable chiefly for his marriage with Miss *Farren* the actress, whom he survived—and for his passion for fighting cocks, he carried so far, as when lately he could not go out, to have them brought ready trimmed and gaffed into his drawing room, and then have a set-too—occurred about the middle of October. He was the grand father of Mr. Stanley.

[*From the London Courier of 23d Oct.*]

PROROGATION OF PARLIAMENT.—Parliament was prorogued this day. The ceremony took place in the Lords' Library, which had been fitted up for the occasion, the members of the House of Commons entering on one side, and the Lord Chancellor and the Peers on the other.

The Lord Chancellor arrived very shortly after two o'clock, and took his seat on the temporary Woolsack prepared for the occasion. The other Commissioners (the Earl of Mulgrave and Lord Auckland) having taken their seats, the Royal Commission for proroguing the Parliament was read.

When the commission had been read, the Lord Chancellor said, "In virtue of this commission to us directed, and in obedience to his Majesty's command, this Parliament is prorogued until Tuesday, the 25th of November."

No mention was made of any other place for holding the Parliament, the words referring to it being "our said Parliament at Westminster."

The attendance of the Peers was more numerous than we recollect for some time past on the mere formal prorogation of Parliament. Among them were Lord Shefton, Lord Strangford, the Earl of Westmorland, Lord Burghersh, the Marquis of Conyngham, &c.

The Commons were represented by Mr. Ley, the Clerk of the House. Sir James Graham and Mr. Stewart Mackenzie were the only members whom we recognised. Lady Burghersh and Lady Manners Sutton were also present.

Governor-General of India.—It was generally circulated on Tuesday evening, at the west end of the town, that the noble Secretary of State for Foreign Affairs (Lord Palmerston) had obtained that splendid prize the Governor-Generalship of India.

We have to record another failure to-day—that of a West India produce broker, in Mincing lane.—[Chronicle.] [This house is, we believe, that of Field & Co. We understand also that an American house, trading under the firm of Jansen & Co., has stopped. Some alarm, we believe, prevails in the city on account of these and other failures, and a great scarcity of money is felt.]—Courier of 22d ult.

Burning of "Windsor Castle."—A very absurd report has been afloat the whole of this morning that Windsor Castle had been burnt to the ground. We have made every inquiry on the subject, and learn that the rumor originated in a house having caught fire in the Vauxhall-road, adjoining to the public-house called the Windsor Castle.—[Sun.]

Another paper says: "Not only in the city, but at various parts of the town, it was currently reported that Windsor Castle was on fire at 3 o'clock this morning, which gained credit for some time. On an inquiry at the coach-offices, it was found to be a public house, called the Windsor Castle, which was on fire. Thus ended the hoax."

Birmingham Musical Festival.—We learn that the net proceeds of this festival, after defraying all expenses, amount to above £7000, which sum goes to the Birmingham General Hospital.

The death of the Earl of Derby, at the age of 82, is mentioned in the Liverpool papers with expressions of regret, as he possessed the best breed of cocks in the Kingdom.

M. Marin.—This celebrated French sculptor, well known by his statute of Tourville, and other works of great merit, died last week in Paris, at the age of seventy-one.

Algiers.—The Algerine Colonization Company is finally constituted. A great number of colonists have set out with their families to occupy, as farmers, some of the lands belonging to the company, which possesses above 30,000 acres in the environs of Algiers. The provinces have concurred with the capital in this great and useful enterprise. The house of Barbet alone has taken 120 shares of 1000 florins each.—[Messager, Sept 19.]

PARIS, OCT. 22.—Last year, a Polish gentleman having caught a stork upon his estate, near Lomberg, put round its neck an iron collar, with the inscription *Hæc ciconia ex Polania*, (this stork comes from Poland,) and set it at liberty. This year the bird returned to the same spot, and was again caught by the same person. It had acquired a new collar of gold, with the inscription, *India cum donis remittit ciconiam Polonis* (India sends back the stork to the Poles with gifts.) The gentleman, after having shown the inscription to his neighbors, again set the bird at liberty.

SUMMARY.

THE GREAT ECLIPSE, which, by a mistake of the date, we made—in a notice of it some days ago—to happen on the 5th of the present month, will occur on the 30th, and be total in the southern parts of the Union.

Already several scientific gentlemen are on their way South, to make observations on this rare and interesting phenomenon.

Professor *Alexander*, of Princeton, has gone to Effingham county, in Georgia, where the darkness will be total.

Captain *Talcott*, of the United States Engineers, will make his observations at Norfolk, Va., where the obscuration will be considerable; and Mr. *Hassler* on Long Island, from his coast surveying station.

Mr. *R. T. Paine*, of Boston, who has charge of the astronomical department of that excellent publication the *American Almanac*, goes to Beaufort, S. C., the most eligible place in the Atlantic States for observing this grand spectacle.

The total import of specie into the the United States, since the 1st December, 1833, is stated in the Washington Globe to be $19,640,576 82. The amount of the new gold coinage to the 15th inst. is $2,835 900.

Carpenter M'Cleery, Esq. has become part proprietor of the Lancaster Union, a very decided Whig journal, published at Lancaster, (Pa.)

The late Jonathan Burrall, whose death was noticed in this paper on Saturday, is thus justly spoken of by the Goshen Democrat.

The character and public services of Mr. Burrall require from us something more than the usual obituary notice. At the age of 23 he joined the northern army, then engaged under General Schuyler, in the memorable champaign of 1776. His peculiar abilities and acquisitions attracted immediate notice, and procured for him the situation of Assistant Paymaster of the forces. He remained in this office until the close of the revolutionary war, when he was chosen by Congress one of the commissioners for settling the accounts of the Commissary and Quartermaster's Departments. He was afterwards appointed Assistant Post master General. Upon the establishment of the Bank of the United States, Mr. Burrall was selected as Cashier of the Branch in the city of New York, and subsequently received from Governor Clinton a nomination as one of the managers of the State lotteries, at a time when public confidence in them had been shaken and the influence of high purity of character was requisite to restore it.

In these, and several other responsible stations in life, he exhibited great strength of understanding, persevering industry, and the most distinguished integrity. His acquisitions in literature were respectable, and in science large and accurate. He united, to a vigorous mind, an amiable temper, and a marked and most undeviating adherence to truth, which won for him during life, and will secure to his memory, the respect and affection of all who knew him.

Death of one of the African Princes.—Charles Bolio, son of Wead Bolio, of Grahway, one of the African Princes sent to this country to be educated, under the care of the Maryland State Colonization Society, died at Baltimore, on Tuesday morning, from an effusion upon the lungs.

Dr. Alfred Perkins, of Norwich, Ct. whose death was mentioned in our paper last week, besides several private benefactions, made the following bequests for public objects:

$10,000 to the Library of Yale College,
$3,000 to the Home Missionary Society,
$1,000 to the Bible Society,
$1,000 to the Colonization Society,
$500 to the Sabbath Schools of New London County.

[*From the Charleston Courier of 17th inst.*]

A new steamboat, called the David Crockett, built by Mr. Poyas, was plying about our harbor yesterday, in order to try her machinery. The David Crocket is constructed on a similar principle to that of the Connecticut boat, noticed in our paper some days since, having the wheel in the stern, and like her, is intended to navigate the rivers of Georgia. She is bound to Darien, via Savannah, and will be employed the ensuing season, in towing boats between Darien and Macon, in connexion with the Pioneer line from Macon to Charleston, via Darien.

Lake Steamboat.—A new boat called the Charles Townsend, burthen 325 tons, was launched at Buffalo on the 8th inst., to be finished for the earliest spring business.

Newark Carriages.—It is worth mentioning both as an evidence of the great demand for Newark Carriages, and the pressing business of the manufacturers that one large House in this town have been compelled, by their previous engagements, to turn away orders to the amount of $100,000, within three months! We may also mention, as a handsome compliment to the skill and taste of the manufacturers in general that a large dealer in Carriages of New Haven, himself an extensive manufacturer, declared, in this town, last week that he came to Newark for his best carriages—they being superior to those made elsewhere.—[Newark Daily Advertiser.]

American Champaign.—The vine appears to be successfully cultivated for wine in the vicinity of Baltimore. Mr. G. Fitzhugh writes to the Baltimore American that about 20,000 vines, principally the Herbemont, Lenoir, Catawba, Bland, and Isabella, all natives, have been planted within the last four years. The American also acknowledges the present of a bottle of sparkling Herbemont, made in August, 1832, and bottled in March, 1833, which "resembles champaign in color, flavor, and briskness, and is superior to much that is sold under the fascinating name of the French favorite." It is declared to be the *pure* juice of the native grape. The Burgundy and Champaign districts of France are about latitudes 47 and 48.

It is stated, that near Cumberland the Potomac passes through Strata of bituminous coal 20 feet thick, where the coal may bv thrown directly into the boats. Well may Baltimore and the cities in the District of Columbia be anxious speedily to extend the canal to these rich treasures.—[Alexandria Gazette.]

A convention of "Scientific Practitioners of Medicine in the State of Ohio," is appointed to be held at Columbus, on the 5th of January.

The River.—The recent rains have caused a considerable rise of the river; and we have no hesitation in assuring persons to the eastward, who are intersted, that they may now rely upon having a good navigable state of the river, during the remainder of this month—probably the first two weeks of December, and perhaps even longer. It is but seldom that the navigation of the Ohio is interrupted by ice before the 10th of December. In 1796, however, it closed in November, and and remained closed until February, 1797.

Georgia Legislature.—A bill to alter the Constitution, so as to change the meetings of the General Assembly from Annual to Biennial after 1835, and to elect the Judges of the Superior Courts, and the Attorney-General, and the Solicitors-General for four years, was before the Georgia Legistature and will probably pass.

U. S. Naval Lyceum.—A communication has been received from our Charge des Affairs at Constantinople, (Comodore Porter) by which it appears that he has caused to be purchased on his own account by our Consular Agent at Salonica, and has tranrmitted as a presant to the United States Naval Lyceum, a very ancient and valuable specimen of Grecian Sculpture. The precious relic of ancient art is now on board the frigate United States in charge of Captain Ballard.

Interesting Ceremony.—The remains of twenty eight seamen and marines, who perished by the explosion of the United States Receiving Ship *Fulton*, in June, 1829, were disinterred and removed on Wednesday last, under the escort of a marine guard, followed by the officers of the station, and a detachment of seamen and marines, to the Naval Hospital burying ground, and deposited in a stone vault prepared for the purpose, preparatory to the erection of a monument to their memory.

Yale College.—Number of graduates, 533. Freshman Class 69, less by about 50 than last year. Number of Students from Connecticut 172, other Eastern States 67, New-York city 12, other parts of New-York 52, New-Jersey 4, Pennsylvania 7, Maryland 5, Virginia 5, North Carolina 3, South Carolina 5, Georgia 5, District of Columbia 3, Louisiana 2, Michigan Territory 2, South America 2, Mississippi, Alabama, Illinois, Kentucky, Tennessee, Ohio, West Indies, 1 each.

The Theological Department has 53; the Law School 45. The Medical School had not assembled in time to be included in the catalogue.

Brown University.—The whole number of students at this Institution, as appears by the catalogue recenly published, is 167. Seniors 32, Juniors 36, Sophomores 56, Freshmen 42.

Williams College.—From the catalogue of this Institution just published, it appears that the number of students is 120, viz., Seniors 21, Juniors 40, Sophomores 27, Freshmen 32.

The Rev. William Suddards, of Ohio, has accepted the unanimous call to the Rectorship of Grace Church, Philadelphia.

[For the N. Y. American.]

Mr. Editor: Will you oblige an old subscriber by deciding to which century the 1st January, 1800, belongs—whether to the 18th or 19th? Q.

This is a question that has been often asked, but not satisfactorily answered. If the computation be made from Zero, then the hundredth year is finished on the 31st December 99. So again, counting January 1 as the first day of a new year, December 31 would be the 365th day, and that completes a year. Hence we conclude that the 1st of January, 1800, was the first day of the 19th century.—[Ed. N. Y. Am.]

The Hero of FIVE Wars.—The Mercantile of this morning gives some interesting details respecting an old soldier who commenced his campagns under the Pretender, in the battle of Preston Pans—fought under Bradock in the old French war,—was a sergeant under Wayne in the Revolution,—was wounded in the great Indian war of 1791-2 and finally took a part in the affair of New Orleans. In each of these five wars he saw active services, was several times wounded and taken prisoner, and was once sergeant of a Forlorn Hope. The appeal appended to the following paragragh in the Mercantile cannot be made in vain!

Sergeant Andrew Wallace.—This revolutionary soldier, who is now 105 years old, and who has served his country as a soldier in her different wars for 29 years, will be during the afternoons and evenings of the present week at Peale's Museum, for the purpose of receiving the contributions of the charitable to enable him to return to his home in the interior of Pennsylvania. He first entered the army in 1754, about the commencement of the French war. In 1776 he enlisted in Pennsylvania, in the regiment commanded by "*Mad Anthony*," as Gen. Wayne was usually called, where he was appointed a Sergeant, which he continued to the end of the war. He was at the little known, bloody affair of the "Three Rivers," at the "Iron Hills," and at the battle of the Brandywine he bore the wounded Lafayette off the ground. He was at the massacre of Paoli, and is supposed now to be the only survivor of that bloody day. His brother was amongst the killed. He was at the battle of Germantown and Manmouth, and was taken prisoner whilst on a foraging party in New Jersey. After his exchange, he was Sergeant of the Forlorn Hope, at the storming of Stony Point. He was afterwards at the Cowpens, at Eutaw, and at the siege of Yorktown. After the peace, he again enlisted and was wounded by a ball in his right arm, at the battle of St. Clair's Defeat, in 1791. He was in the battle with the Indians at Russe Debouch under Gen. Wayne, and finally was at New Orleans in 1812-13. At the age of 84 he was discharged from the service on account of disability.

To the above we need not add one word calling upon our citizens to bestow a portion of their superfluity upon this old soldier.

Naval.—The U. S. ship St. Louis, Capt. McCauley, with Com. Henly on board, bound to the West Indies, has gone to sea from Hampton Roads.

Naval.—The barque Flora, at Boston, passed on the 8th October, the United States frigate United States, Captain Ballard, from Mahon, going into Gibraltar.

The United States brig Enterprize was spoken, September 2, in latitude 2 deg. north, longitude not given, by the English sloop of war North Star, and was expected to arrive about the 15th of September at Rio Janeiro.

Quick Passage.—The packet ship Ontario, Capt. Sebor, made her passage from New York to Portsmouth, in eighteen days to an hour, and without reefing a top sail.

Packet ship Sampson.—A London paper of Oct. 17th, says:—"The large American packet ship Sampson, a regular New-York "liner," was hauled out of the St. Catherine's Dock, with upwards of two hundred and fifty steerage passengers on board, consisting of mechanics, tradesmen of small capital, agriculturists from various countries, and others, many with their families, who intended settling in the United States and British North America.—There are in addition forty respectable cabin passengers. This ship, which is bound direct for New York, takes out a greater number of emigrants than any other vessel which has left the port of London during the present year."

The new state prison erecting by the State of New Jersey, at Trenton, is expected to be completed next summer. It is estimated to cost $148,000, to complete which sum $58,000 is still wanting.

Rapid travelling.—We received from the Post-Office yesterday a letter written at Chester, Pennsylvania, Oct. 15, and *post marked* Oct. 16—having been only thirty-three days on the road. Nothing less than one of the largest extra allowances, we should think, could have procured such despatch.—[National Inteligencer.]

The elegant house of R. H. Gardiner, Esq. of Gardiner, Me. was destroyed by fire, 11th inst.

French Land Titles.—We understand that an aged French gentleman has just arrived in New York, from France, in search of lands he claims in Michigan. He holds an ancient patent from the King of France, Louis (number unknown to us,) for a tract *eighteen miles square*, in the interior of Michigan. The lands are represented to us as highly valuable, much of the tract being under improvement. The gentleman is wealthy, and intends proceeding forthwith to the investigation of his title.

There are, if we mistake not, more of these ancient royal grants extant; and to what number they may reach, or what portion or section of the old French possessions they may be found to cover, is yet problematical. Gov. Cass, we believe, recently discovered one duly recorded at Quebec, covering a part of his valuable possessions in Michigan, including the front portion of his farm.—[Buffalo Whig.]

The corner-stone of the Chapel of the Military Academy at West Point, now erecting under the authority of Congress, was laid, at the request of the Commandant and Superintendent, and of the Chaplain, with appropriate religious exercises, by the Right Rev. Benjamin T. Onderdonk, D. D., on Wednesday, 12th instant.

The Right Reverend Bishop Brownell of Connecticut, and the Rev. R. A. Henderson of Philadelphia, sailed from this port, on Monday last, in the ship Louisville, for New Orleans. The Bishop is accompanied by his wife, who seeks the restoration of her health by a winter's residence in the South, while he is engaged in the duties of his office in the States of Louisiana, Alabama, and Mississippi.—Mr. Henderson goes to take charge of the French Evangelical Church in the city of New Orleans.—We congratulate the Church, in that region, upon an event which promises to give permanency to her institutions, and to extend the influence of religion in that region.—[Churchman.]

Eastern Steamboat.—A new boat is in forwardness on the stocks at Portland, intended to supply the place of the old and popular Chancellor Livingston, on the Portland and Boston route. She is expected to be ready to take her place on the route early in the spring. She is of ample dimensions, and will be well calculated both for freight and passengers. Her length will be 160 feet, breadth 27, and depth 10, and her tonnage over 400.

Melancholly Shipwreck.—The brig George P. Stephenson, Captain Joseph Curtis, of and from Baltimore, bound to Rio Janeiro, was capsized 6th inst. at 4, P. M. lat 35 30, lon 71, in a gale, from N N W under a close reefed maintopsail. The mainmast and foretopmast was cut away, when she righted, full of water—the hatches broken open, both boats stove to pieces, and every thing washed from the decks. Capt. Curtis and his wife, two seamen and a boy, were drowned. The two officers—Mr Joseph Gavet and Joseph Richardson—and the remainder of the crew, succeeded in lashing themselves in the fore rigging. The next day the cook and one boy died; and the remainder survived on the wreck, without a drop of water, until the 14th, at 1, P. M. when we were kindly taken off by Captain Thomas R. Shapter, of the brig Cornelia, of and for New York from Rio Janeiro, where we arrived on the 21st inst. The officers and crew return their sincere thanks to Captain Shapter for his kind treatment while on board his vessel.

Tobacco.—The Ohio Tobacco crop, is said to be much less injured by the frost than was supposed; all the earlier and more valuable portion of it having been secured before the appearance of frost. The amount of the present crop will, it is estimated, exceed that of last year, which was over 10,000 hogshead. Much of it is now ready for market.

The Georgia Cotton Crop.—The accounts from Georgia respecting the Cotton Crop, are very contradictory. We yesterday were put in possession of two letters, which differ very materially in their views. One dated Macon, 7th inst. states that it is the opinion of intelligent men that the receipts there will not exceed 50,000 bales, against 71,000 last season, and giving it as the belief of the writer, that there would be a falling off of 75,000 bales in the State. The other, under date of 10th November from Augusta, alludes to the reports of the shortness of the crop, and says it is the opinion of many that it will be within 20 a 25,000 bales of last year, and that if the weather continues fine, there would be several weeks picking. We leave those acquainted with the subject, to judge which is most correct.

FOREIGN VARIETIES.

The following is a short description of the two Houses of the British Parliament before the late calamitous event had reduced them to a heap of ruins:

House of Lords.—This House was originally the old Court of Requests, in which the Masters of the Court received the petitions of the subjects to the King. The Court or Hall was fitted up in its recent manner on the occasion of the Union of Great Britain and Ireland.

The House in which the Peers carried on the business of the nation was not the whole of the old Court of Requests, for part of the north end was formed into a lobby, by which the Commons passed into the Upper House.

The throne was new on the accession of his late Majesty George IV.

The House of Lords was a very handsome, if not a splendid room. It was of an oblong description, rather smaller than that of the Commons. In the front next to Abingdon street it was decorated with pinnacles.

The celebrated tapestry of the old House of Lords, representing the defeat of the Spanish Armada, after being taken down and cleaned, was used to decorate the walls of the one which has unfortunately fallen a prey to fire. The tapestry was greatly admired. It was divided into compartments by frames of brown stained wood; each compartment containing a portion of the story. The heads which formed the border to these compartments were portraits of the several gallant officers who commanded in the English fleet on that memorable occasion.

The throne was a large armed chair, beautifully carved and richly gilt. It was ornamented with crimson velvet and embroidery. It was always kept covered except when the King came down or when there was a Commission to give assent to Bills.

Between the House of Lords and Commons was the Painted Chamber, where all the conferences between the two houses were held. The room is said to have been Edward the Confessor's bed-chamber.

The mass of buildings in the Old and New Palace-yards, which constituted the ancient Palace of the Monarchs of England, erected by Edward the Confessor, were mostly consumed by fire in the year 1512; the Court afterwards removed to Whitehall and St. James's.

House of Commons.—This house was originally a chapel built by King Stephen, and dedicated to St. Stephen; hence the name of St. Stephen's Chapel, so frequently applied to this building. It was rebuilt in 1347, by Edward III, and created by that monarch into a collegiate church, under the government of a dean and twelve secular priests. Being surrendered to Edward VI he gave it to the Commons for their sittings, and it has been applied to that use ever since.

The old House of Commons was formed within the chapel, chiefly by a floor raised above the pavement, and an inner roof, considerably below the ancient one. On the union with Ireland the house was enlarged by taking down the entire side walls, except the buttresses which supported the original roofs, and erecting others beyond, so as to give one seat in each of the recesses thus formed, by throwing back part of the walls. A gallery ran along the west end, and the north and south sides were supported by slender iron pillars, crowned with gilt Corinthian capitals. The whole house was lined with oak.

The Speaker's chair stood at some distance from the wall, towards the upper end of the room; it was slightly ornamented with guilding, having the King's arms at the top. Before the Speaker's chair, with a small interval, was a table, at which three clerks of the house sat, when parliament was sitting, their business being to take minutes of the proceedings, to read the bills and petitions, &c.

On the table the Speaker's mace was placed, unless the house was in committee. In that case it was put under the table, and the Speaker then left the chair.

Between the table and the bar was an area, in which a temporary bar was placed, where witnesses were examined. There were five rows of seats on each side and at both ends, upon which members sat. The seat on the floor on the Speaker's right hand, was called the Treasury Bench, on which the chief members of the administration sat; and the opposite seat was occupied by the leading members of the opposition. The gallery on each side was appropriated also for the members, and the front gallery for strangers—the last seat being devoted to reporters.

The chapel, as finished by Edward III., is represented as being of such beauty that antiquaries have again and again regretted it should have undergone any alteration to form it into the House of Commons. When the inner walls were unmasked at the period of the Union with Ireland, by removing the wainscot to make the alterations, a great part of the decorations remained. The interior of the walls and roof of the chapel were curiously wrought and ornamented with a profusion of gildings and paintings. It appears to have been divided into compartments of gothic shape, each having a border of small gilt roses. At the east end, including about a third of the length of the whole chapel, which part was most likely enclosed for the altar, the entire walls and roof were covered with gilding and paintings, and presented in the mutilated state in which they were seen during the alterations above alluded to a superbe and beautiful remnant of the fine arts as they existed in the reign of Edward III. This, however, as respected the paintings, could not be very advanced, for according to the authority of Lord Oxford, no mean writer upon the subject of the fine arts, in his highly entertaining work "Anecdotes of Painting," the arts had made but little progress in this country at that remote period. The gilding was remarkably solid and highly burnished, and the color of the paintings vivid, both being nearly as fresh as when they were executed. One of the paintings is represented as possessing merit even in the composition; the subject was, "the Adoration of the Shepherds." The Virgin was not devoid of beauty or dignity.

The west front of the chapel was to be seen until the destruction of Thursday night, and it had a fine Gothic window.

Beneath the house, in passages or apartments appropriated to various uses, were to be seen considerable remains, in great perfection, of an under chapel of curious workmanship, and the entire side of a cloister, the roof being of great beauty. A small court of the palace was not disturbed at the Union; and it, with other buildings, formed part of the dwelling of the Speaker. Between the house and the Thames the Speaker's garden is situated.—Within the house were a great many rooms for the officers of state, clerks, &c., besides numerous committee rooms. In the year 1816, the floor was newly laid.

The Libraries.—The libraries, especially that of the House of Lords, were exceedingly extensive, consisting not only of books connected with legislation and public records, but upon general literature. Many of the books were superbly bound. During the session peers frequently came to read in the library in a morning. It was only in the course of last session or the session before, when Lord Ellenborough, having occasion to refer to a volume in the library during a discussion, passed an eulogium on the excellent collection of books which their lordships possessed.

Edinburgh Scientific Meeting.—A grand meeting of delegates from the schoolmasters and professors of Scotland is held annually in the great hall of the High School at Edinburgh. The object of this assembly is to examine the accounts of the society for making provision for retired members of the scholastic profession. The number of *savans* and foreigners from all parts of Great Britain and Europe, who came to attend the scientific congress and the dinner given to Lord Grey, were very numerous.—After the business of the day had been gone throgh, a considerable number of the members dined together at the Waterloo Tavern. Among the toasts given was one to the University of France, and another to M. Guizot, Minister of Public Instruction. These toasts were highly applauded. M. Mallac, one of the directors of the *Revue du Progrès Social*, who had been deputed by M. Guizot to proceed to Edinburgh to study and report upon the organization of the Scotch schools, returned thanks, and dwelt upon the immense progress that had been made in France, as to education, since the revolution of July: he terminated by proposing the following toast:—"To the prosperity of the primary schools of Scotland." Thus the alliance between England and France becomes daily more national. It is not only recorded in treaties brought about by deplomacy, but it has penetrated into the hearts of the people, and is manifested in the acts of practical life.—[Journal des Debats.]

King George's Sound.—The last account from New South Wales furnish some interesting intelligence respecting the new settlement at King George's Sound. The town of the colony, which is called Albany, is situated on the N. E. side of Princess Royal Harbour, a fine basin of about twelve miles in circumference, and three or four miles across. It is, however, very shoal, excepting in a small place in the site of the town, where a few ships, not drawing more than sixteen or eighteen feet of water, may ride in perfect safety. The entrance into the harbor is very narrow, and precludes the effect of all high and stormy winds. The allotments of land are given gratis in the town, as well as the beach allotments and the suburban allotments of six acres for country houses. All other lands may be purchased for five shillings per acre. Some of the land is very rich, and, with little labor, would prove of the finest cultivation. Many sloping valleys of rich pasture had been discovered, enjoying a fine, mild, and agreeable climate. The good land on the hills was very thickly overgrown with trees. Sheep and cattle thrive exceedingly well on the wild herbage of the country. The Devon and Durham heifer, and the pure Merino sheep landed in the settlement in September last, were in the finest possible condition. All vegetables, whether imported from England or elsewhere, throve with the greatest luxuriance. Olives, grapes, gooseberries, currants, roses, orange trees, China tea plants, mangoes, guavas, &c. were growing well. The entire population of the settlement, exclusive of the military, was eighty persons. The most friendly intercourse had been established with the aborigines, who appeared to be of a milder character than in the other parts of New Holland.—They were much attached to the settlers, and six or eight were constantly employed in working in the governor's garden. The native pigeon and the quail were numerous. The colony of the society of Friends had taken 80,000 acres on the bank of the French river, at the head of Oyster Harber.

Conch Divers of the Bahamas.—In December 1821, one of his Majesty's ships, in going into the harbour of New Providence, struck on a bank, and rubbed off a sheet or two of her copper. The following morning, one of the divers being sent for, and supplied with hammer, nails, and sheet of copper, sunk himself to the keel, and after two or three breathings at the surface of the water, made good the defects! He was afterward required by the commanding officer to bend a hawser into the chain-cable near the anchor, as it lay at the bottom in nearly four fathoms water. This he accomplished with much ease, and a seaman-like bend it proved on the anchor being hove up. These divers, who are black men, and generally natives of the outer island, are nearly six feet in hight, with broad shoulders, and so accustomed to diving for conchs from their infancy, in from two to ten fathoms water, that they have habituated themselves to continue under water for as long a time, perhaps, as the pearl divers of India. They often take with them a hammer, and on finding a a conch will break its shell, take out the fish, and prepair it for dressing before they rise; they will also take a bottle of any drinkable liquid, with the cork wired, and sink to the bottom in three or four fathoms, and, with the corkscrew, draw the cork, drink its contents, and rise with the empty bottle! Porter is always the beverage they solicit on these occasions.—[Nautical Magazine.]

Persian Manufactures.—Persia during the days of her prosperitiy, was greatly distinguished as a manufacturing country. Her fabrics, suited to the oriental taste, have supported not only the ostentatious magnificence of her Court and great men, but those of Turkey, Tartary, and even those of Northern Africa. The women of the wandering tribes weave from the wool of the sheep those carpets which we call *Turkey*, from the place of their immediate importation. They form throughout the East the most important branch of ornamental furniture. The carpets manufactured in Khorassan possess the highest reputation. The next staple consists of silk fabrics, rich and ornimented, particularly brocade and embroidery. Sometimes the tissue is entrely silk, sometimes mixed with cotton and wool. Under the Ahassyde dynasty the precincts of the Court contained great works of tapestry composed with silk and wool embellished with gold; but this art, though not entirely lost, languishes for want of encouragement. Arms, particularly sarbes of a superior quality, and richly embellished with gold, silver and precious stones, are prepared on a great scale to meet a sure demand; and in this branch no decline has been observed. The mununacture of earthernware is very extensive throughout Persia.—and some of its products almost rival the porcelain of China. These, with shawls made from the goats' wool, leather paper, and jewellery, complete the list of her principal manufactures.

Count Mathuschevitz's stud have sold for 2,500 guineas.

The following epitaph has just been placed on the tomb of Gaspard Hauser, buried at Anspach:—*Hic jacet Gaspardus Hauser, enigma sui temporis, Ignota nativitas, occulta mors*, 1833.—Here lies Gaspard Hauser, the enigma of his age. His nativity unknown; his death concealed.

Halley's Comet.—Seeing in your paper an extract from a New York paper, stating that Halley's comet was visible in the constellation Taurus, I beg leave to state that that comet will not be visible to this. previously to August 1835, and that its nearest approach to the earth will take place on the 6th of October, 1835, when it will be nearly vertical in this latitude, and will be visible in the evening, in the constellation of the Great Bear, never setting for several days.—[Correspondent of a Dublin paper.]

Number of Places of Worship.—It appears from a Parliamentary return just published, that in 188 parishes of England, each containing a population of a thousand persons, or upwards, there are 2523 churches or chapels connected with the Establishment, and 3438 Dissenting places of worship. The churches have sitting rooms for 1,856,108 persons, but there is no statement as to the capabilities of the chapels. In the dioces of Chester, in which this town is situated, there are in the 257 parishes with 1000 inhabitants or upwards, 351 places of worship belonging to the Establishment, and 439 belonging to the Dissenters. The churches will seat 220,542 persons.

It is stated in a late publication in England on Temperance, that the "United Kingdom pays annually fifty million pounds sterling for spirits, wine and malt liquor, and consumes, in the same period, as much of these fiery liquids as would make a river of three feet deep, sixty feet wide, and eighty-four and a half miles long."

Prince Esterhazy, it is stated, will not return to London; his estates, it is said, produce to him a revenue of 2,000,000 florins, or about £230,000 sterling; and his debts, which have been chiefly contracted by his father, amount to 1,800,000 florins.—His fine estates are well known, and his sheep are numbered at 3,000,000; and these supply annually from 40,000 to 50,000 hundred weight of wool.

Count Mazzinghi,—This eminent composer has lately been recognized as the rightful heir to a title which had been considered lost for upwards of forty years. Mr. Mazzinghi repaired form London to Florence, and made good his claim, when the title of a Tuscan Count was conferred on him. From Florence he went to Rome, and was received by his Holiness the Pope most graciously. Mr. Mazzinghi has been a member of the Royal Society of Musicians 47 years, and, notwithstanding his newly-acquired honors, he has expressed a wish that his name should remain on the list as heretofore, among so many old friends and associates, whom he respects; but, as Count Mazinghi, he begs to present the society with a donation of 25*l*. Mr. Mazzinghi married a daughter of the late Mr. Hodges, the eminent distiller, with whom he received a handsome fortune, which will fully enable him to support his title.

The musical world has, within the space of a few months, lost two of its brightest ornaments—Choron and Boildieu. The former had acquired, by long study, a knowledge of the science of music which even his enemies admitted to be unprecedented in depth and correctness; the latter, gifted by nature with the most extraordinary musical talents, has left behind him a great name, and added much to the deservedly high musical reputation of France. For some months he had been confined to his room, and after long and painful sufferings he expired at his house at Jarey on the 10th of the last month, surrounded by sorrowing relations and friends. It is reported that a monument will be raised to his memory by subscription.

Such is the demand for the popular perfume eau de Cologne, that there are said to be not less than forty "Jean-Marie Farinas" who deluge Europe with it in its genuine and spurious state.

Wooden Rustic Work for Gardens.—The advantages of wooden rustic work is that it can be adapted to a great variety of purposes. Thus very beautiful and even architectural temples may be formed of unbarked wood. Ornamental doors, every description of garden seats, and flower baskets and vases of very elegant forms, may be composed of the same material. Shady walks also, having the pleasing gloom and enriched effect of a Gothic cloister, may be made of wooden rustic work. I allude more particularly to what I call wood mosaic, which is, I believe, rather a modern invention. It is formed of split sticks of various lengths and sizes, and having bark of different colors. The pieces are nailed to any flat surface of wood, and very beautiful and elaborate pattern may be produced by arranging the pieces according to their sizes and the various colors of the work. Garden seats and vases of almost any shape may be covered with this kind of mosaic work, but as it is not durable when exposed to the weather, it is most suitable for the inside of summer houses and garden temples. In such situations the richest spicimens might be introduced, and if varnished over they would last for a number of years. There are some handsome and rather costly specimens of this kind of ornament in the flower garden of Bagshot Park.—[Gardner's Mag.]

Method of Preserving Flowers with their Natural Colors.—A method has since been mentioned to me, by which the colors of the flowers of plants are well preserved. The process was this:—the paper being first heated before the fire, or in an oven, the plant recently gathered is placed between two hot sheets, and pressed. It is requisite, however, that the paper, in the same heated state, be renewed at intervals, on account of the expressed juices from the stalks and leaves fermenting, which might otherwise injure the plants. There is also a method of preserving plants in flower, by which their natural form, as well as colors, can be preserved. It consists in placing the plant in a jar, and pouring fin. sand upon it, until the whole plant is covered: it is then to be placed, still kept in the jar, into an oven; after which, being taken out, and the sand removed, the plant is found preserved both in its form and color.—[Bennett's Wanderings in New South Wales.]

The following beautiful stanzas, to the memory of Sir John Stevenson, are extracted from the concluding volume of Moore's Irish Melodies.

Silence is in our festal halls —
O Son of Song! thy course is o'er;
In vain on thee sad Erin calls,
Her Minstrel's voice responds no more—
All silent as the Æolian shell
Sleeps at the close of some bright day,
When the sweet breeze, that wak'd its swell
At sunny morn, hath died away.

Yet at our feasts, thy Spirit long,
Awak'd by music's spell, shall rise,
For name so link'd with deathless song
Partakes its charm and never dies;
And ev'n within the holy fane,
When music wafts the soul to heaven,
One thought to him, whose earliest strain
Was echoed there, shall long be given.

But where is now the cheerful day,
The social night, when, by thy side,
He who now weaves this parting lay,
His skilless voice with thine allied,
And sung those songs whose every tone,
When bard and minstrel long have past
Shall still, in sweetness all their own,
Embalm'd by fame, undying last.

Yes, Erin, thine alone the fame,—
Or, if thy bard have shar'd the crown,
From thee the borrow'd glory came,
And at thy feet is now laid down.
Enough, if Freedom still in pire
His latest song, and still there be,
As evening closes round his lyre,
One ray upon its chords from thee.

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The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few setts wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to J. W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to. DEAN WALKER. a3

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Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, J31 6t corner of Maidenlane.

LOCOMOTIVE ENGINES.

☞ THE AMERICAN STEAM CARRIAGECOMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1-2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine, wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,
WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

RAILWAY IRON.

☞ Ninety-five tons of 1 inch by ¾ inch, 200 do. 1¼ do. ¾ do. 40 do. 1¼ do. ½ do. 800 do. 2 do. ½ do. 800 do. 2½ do. ½ do. soon expected. *Flat Bars* in lengths of 14 to 15 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels

Axles of 2¼, 2⅝, 2¾, 3, 3¼, 3½, and 3¾ inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.
9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. d71meowr

SURVEYING AND ENGINEERING INSTRUMENTS.

☞ The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Superintendant of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors. E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad. and Norrist. Railroad,
m1 1y German.

OFFICIAL.

DEPARTMENT OF STATE,
Washington, November 21st, 1834.

Information has been received from the United States Consulate at Guadaloupe, under date of the 12th ultimo, that a Proclamation has been issued by the Lieutenant Governor of the Island of Dominica, authorizing the importation, in that Island, in vessels of all nations, duty and tonnage free, of the following articles, the growth, produce, or manufacture of any foreign country whatever, that is to say—flour, shingles of all descriptions, staves of all descriptions, pitch white, and yellow pine lumber, and lumber of all other kinds, wood hoops, beef, pork, and every species of salt, dried and pickled fish; such importation to continue for the period of six months, from the 27th of October, 1834.

EXCHANGE.—Believing that the Merchants, Traders, and others of this city may be benefitted by a statement of the Rates of Exchange, similar to the plan adopted by Boston Banks, we have obtained a list of rates as at present charged by the PHENIX BANK of this city.

The arrangements of the Phenix Bank for Collecting Bills and Notes, extend to every State and Territory of the Union, we have found it necessary therefore to condense our table by inserting the maximum and minimum rates on each State. The variations arising from the greater or less difficulty of collecting on some of the towns and places of the interior and off the direct mail routs.

Toronto, Upper Canada 2

Maine	¼a1	Illinois	0 a0
New Hampshire	¼a1	Missouri	1 a2
Vermont	¼a1	Michigan	1¼a1½
Massachusetts	0a1	Virginia	¼a1
Rhode Island	0a0	Kentucky	1 a1½
Connecticut	0a0	North Carolina	1 a1½
New York	0a1	South Carolina	¼a1
Pennsylvania	0a1½	Tennessee	1 a1½
New Jersey	0a0	Georgia	¼a1
Delaware	0a0	Alabama	1 a1½
Maryland	0a0	Mississippi	1 a1½
District of Columbia	¼a1	Louisiana	1 a1½
Ohio	¼a1½	Florida	0 a0
Indiana	0a0		

The inner column shows the rate for the greater portion of places in a State—the outer, for more inaccessible points.

RAILROAD AND CANAL MAP.

THIS long promised Map is now ready for those who wish it. Its size is 24 by 40 inches. It is put up in a convenient pocket form, in morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal delineated on the Map. It will also be put up in *Marble Paper* covers, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44, and probably not 25 cents, to any part of the county.

Published at 35 Wall street, N. Y, by
A12 tf D. K. MINOR & J. E. CHALLIS.

MECHANICS MAGAZINE.

THE NUMBER FOR OCTOBER 31, will be ready for delivery to Subscribers on Monday next. It contains numerous articles, and a concise account of the FAIR of the AMERICAN INSTITUTE held at NIBLOS' GARDENS, illustrated with numerous engravings.

☞ MECHANICS' and OTHERS who feel interested in endeavoring to abolish the abominable "STATE PRISON MONOPOLY" are requested to forward to the Editor such facts as come within their knowledge, and they will be published if authenticated.

The Mechanics' Magazine and Register of Inventions and Improvements is published by the Proprietors, D. K. MINOR & J. E. CHALLIS, at No. 35 Wall-street, New York: in *weekly* sheets of 16 pages, at 6¼ cents—in monthly parts of 64 pages, at 31¼ cents—in volumes of 384 pages, in cloth boards, at $1.75—or at $3 per annum, *in advance*.—JOHN KNIGHT, (formerly proprietor of the London Mechanics' Magazine,) Editor.

PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.

☞ Railroad Spikes of every description required, made at the Albany Spike Factory.

Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use.

Ship and Boat Spikes made full size under the head, so as not to admit water.

Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y. sept.13-1 y

NOTICE TO MANUFACTURERS.

☞ SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 18, 1833. A20 tf RM&F

LONG ISLAND RAILROAD COMPANY.

NOTICE IS HEREBY GIVEN, That the undersigned Commissioners, appointed by an act of the Legislature of the State of New-York, passed April 24, 1834, will receive subscriptions to the capital stock of the Long Island Railroad Company, being One Million Five Hundred Thousand Dollars, divided into shares of fifty dollars each, agreeably to the charter of said Company, on the 15th, 16th, and 17th days of December next, from nine in the morning to three in the afternoon of each day, at the following places, viz.—At the Dry Dock Bank, No. 333 Pearl-street, in the city of New York—at the Apprentices' Library in the city of Brooklyn, county of Kings—at the Court House, in and for the county of Queens—at the Inn of William Griffing, in the town of River Head, county of Suffolk—at the House of Thomas Hallock, in Smithtown, in said county of Suffolk.

Subscribers are required by the Charter of the Company to pay to the Commissioners at the time of subscribing five dollars on each share.

Copies of the Charter can be had upon application at the Dry Dock Bank, 333 Pearl-street, New-York.

Samuel Hicks	Benjamin Strong
John Lorimer Graham	Joseph Moser
Edwin Hicks	Edmund Frost
Singleton Mitchell	Nicholas Wyckoff
William F. Bleydenburgh	James H. Weeks
Joseph H. Goldsmith	Valentine Hicks.

13nov tDec. 18

UTICA AND SCHENECTADY RAILROAD COMPANY

Call for Second Instalment on Stock.

THE Stockholders in the Utica and Schenectady Railroad Company are requested to pay on or before the twentieth day of December next, the sum of Three Dollars on each Share of Stock in the Company held by them respectively under the penalty (provided by law in case of non-payment) of the forfeiture of all previous payments made thereon.

Stockholders residing in the city of New York, or within said State and south of the counties of Columbia, Greene and Delaware, are requested to make said payments to the Cashier of the Phenix Bank, at the said Bank in the city of New York; and all other Stockholders in said Company are requested to make said payments to the Treasurer of said Company at the Albany City Bank or at the Commercial Bank, in the city of Albany; but any Stockholder residing west of the counties of Albany, Schenectady or Saratoga may make such payments by depositing the same to the credit of the said Treasurer in the Ontario Branch Bank, in the city of Utica, or in the Herkimer County Bank, at Little Falls, or in the Montgomery County Bank, at Johnstown, provided a certificate of such deposite (with the name of the Stockholder by or for whom such deposite is made) be forwarded to said Treasurer, so as to be received by him on or before the 25th day of December next.

Albany, November 12, 1834. By order.
GIDEON HAWLEY,
Treasurer of the Utica and Schenectady
nov17d&Ctdec20 Railroad Company.

☞ TOWNSEND & DURFEE, of Palmyra, *Manufacturers of Railroad Rope*, having removed their establishment to Hudson, under the name of *Durfee, May & Co.* offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York,
January 29, 1833.

AGENTS FOR NEW PUBLICATIONS.

HENRY G. WOODHULL, of Wheatland, Monroe county, New York, is agent for the following Publications:

The New York American Daily, at $10.00—Tri-Weekly, at $5.00—Semi-Weekly, at $4.00 in advance.

The American Railroad Journal, Weekly, at $3.00 per annum.

The Mechanics' Magazine, two volumes a year, at $3.00 per annum.

The Quarterly Journal of Agriculture and Mechanics, at $5.00 per annum, or $1.25 per number.

The Family Magazine, 416 pages a year, at $1.50 in advance.

The Monthly Repository and Library of Entertaining Knowledge, of 36 pages a month, at $1.00 in advance, now in the 5th volume, bound volumes $1.25

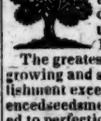
The Ladies' Companion, of 54 pages a month, at $3.00 per annum, in advance.

The Rochester Gem, at $1.50 in advance.

All Communications addressed to me, at Wheatland, Monroe county, will be promptly attended to. September 19, 1834.

n6v6 Ctf.

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.



The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, *warranted* of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures here after, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

ALSO—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of *Farmers*.

W. THORBURN,
347 N. Market st. (opposite Post Office.

☞ Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.

*** Mr. Thorburn is also Agent for the following publications, to wit:—NEW YORK FARMER and American Gardener's Magazine; MECHANICS' MAGAZINE and Register of Inventions and Improvements; AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the NEW-YORK AMERICAN, *Daily, Tri-Weekly*, and *Semi-Weekly*: either or all of which may be seen and obtained by those who wish them, by calling at 347 *North Market street, Albany*. tf

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad
No. 264 Elizabeth street, near Bleecker street,
New-York.

☞ RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlæm Railroad, now in operation.

J25 tf

RAILROAD CAR WHEELS AND BOXES,
AND OTHER RAILROAD CASTINGS.

☞ Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,
Near Dry Dock, New-York.

☞ THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18

INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

☞ EWIN & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewin & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.
Baltimore, May 1st, 1833.

To Messrs Ewin and Heartte—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming aquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprize so well merits, I remain, yours, &c.

B. H. LATROBE,
Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same. m25